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BREAD-WINNERS ABROAD.

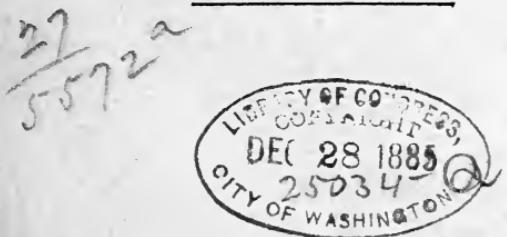
BY



ROBERT P. PORTER.

11

"Protection is equally necessary, and equally beneficial, to one part of the country as to another; and that which makes the Nation rich cannot make a fraction of it poor."—COLTON.



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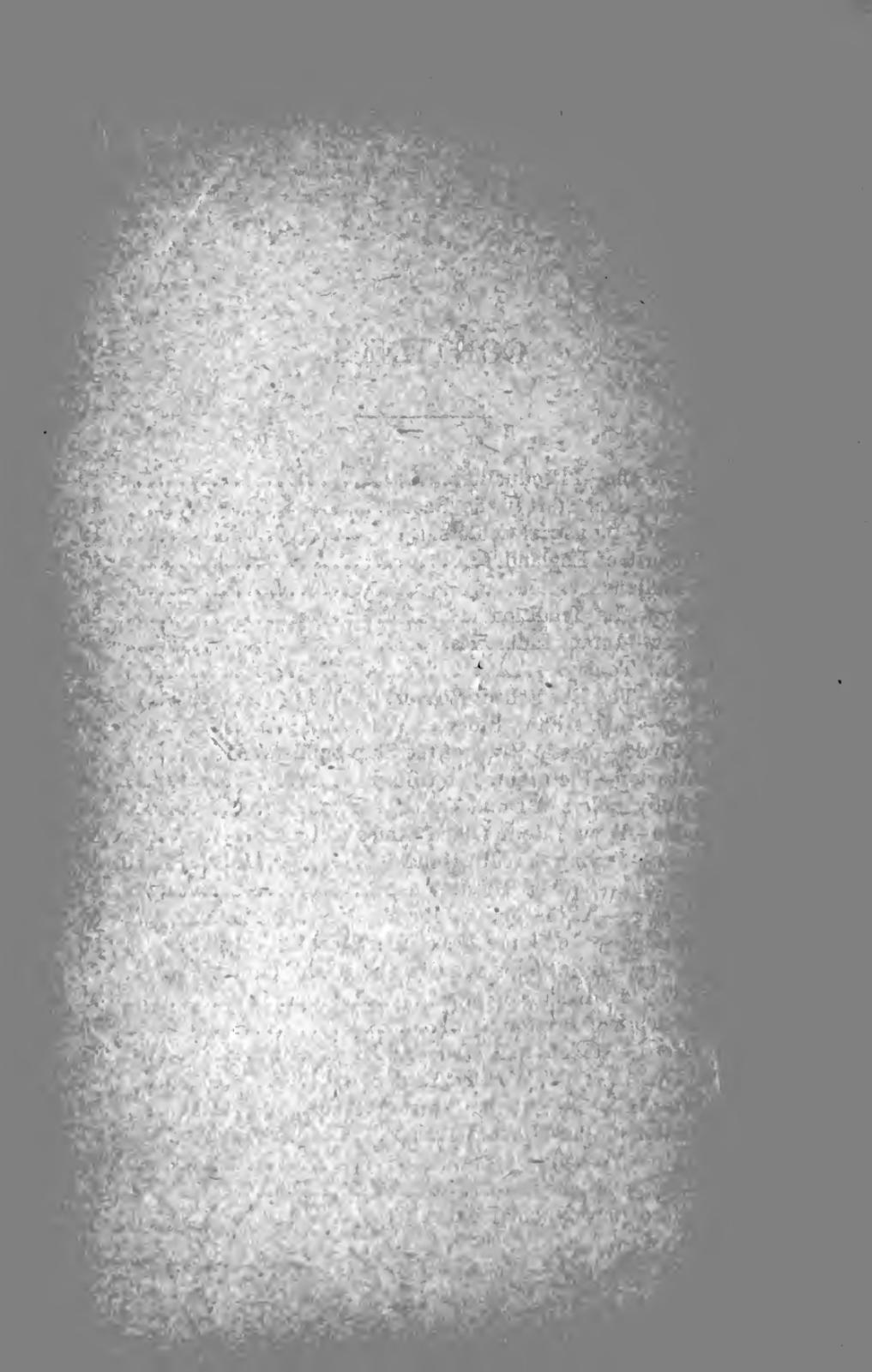
PREFACE.

THE many demands made by letter and through the press generally for the Industrial Letters, originally published in the New York *Tribune*, and also the second series, written for the Philadelphia *Press*, Chicago *Inter-Ocean*, and San Francisco *Chronicle* in a more permanent form, decided the writer to collect those relating to Great Britain —numbering one hundred—for publication in book form, including a special edition for the intelligent workingman, for whom they should have a special interest.

Excepting the correction of typographical errors, no attempt has been made at revision, it being deemed better not to sacrifice freshness of impression to the finish resulting from rewriting.

Should the demand for the present volume justify the enterprise, a second, comprising the same number of Letters from the principal industrial centers of France, Germany, Austria, Hungary, Belgium, Holland, Denmark, Sweden, Norway, and Switzerland, will be issued.

ROBERT P. PORTER.

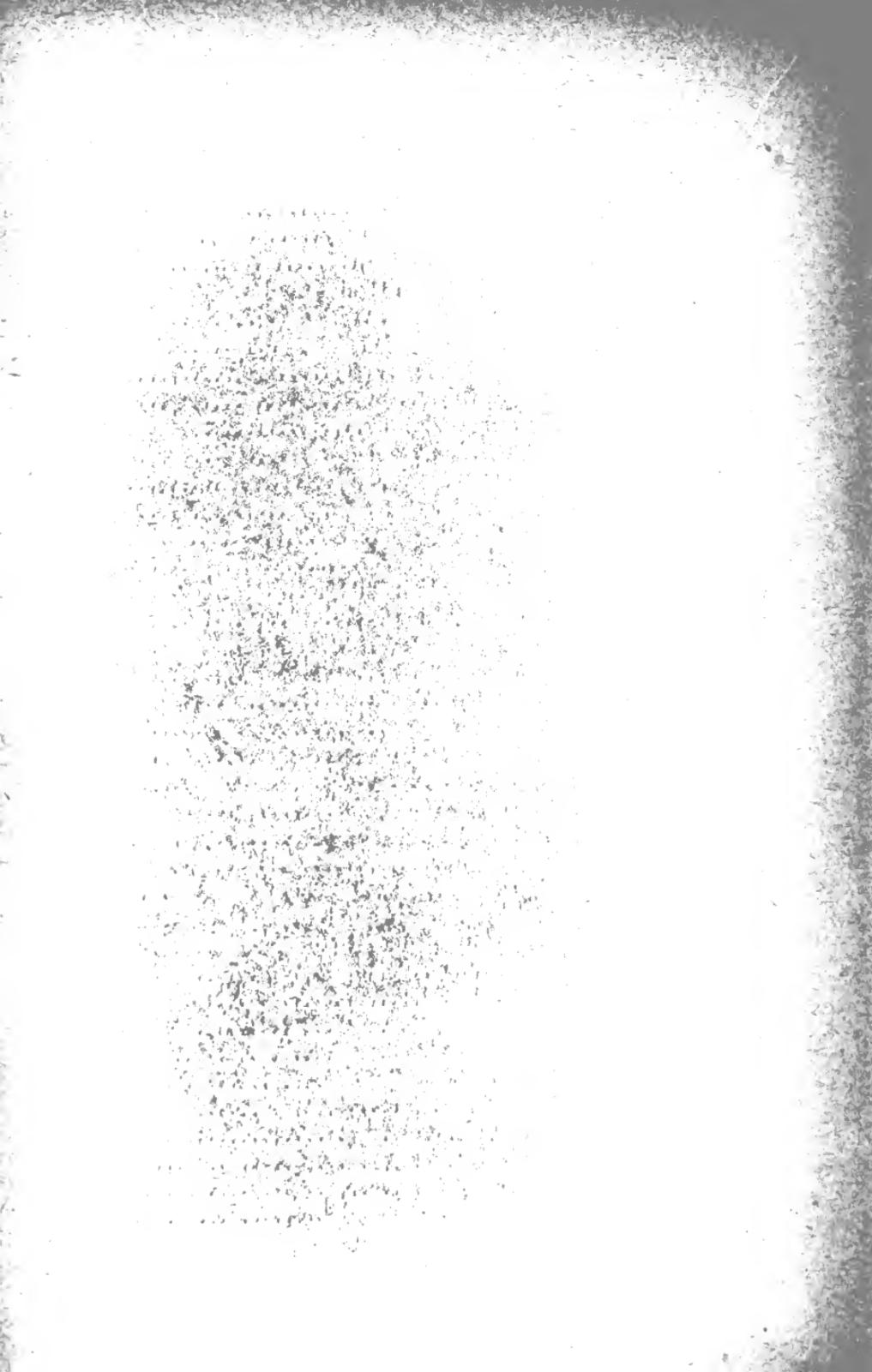


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BREAD-WINNERS ABROAD.

I.

THE ARIZONA—INTRODUCTION.

THE popular idea of a passage at this season of the year across the Atlantic is associated with high and bleak winds, heavy seas, excessive cold, and no chance for exercise on deck. And, as a rule, I suppose the popular notion is correct, though up to this, the seventh day out, we have had no use for the table-racks; the weather has been bright and mild, every one has been enjoying himself on deck, not a half dozen missing from the table, and the sea as calm as midsummer. The satisfactory surroundings rather encourage an attempt to write an introductory to the series of letters from the industrial centres of Great Britain which I hope to prepare for *The Tribune*. Last spring, when England looked like a beautiful garden, I made a rapid move through most of her quaint old cathedral cities and great manufacturing centers, and took what could hardly be called more than a superficial dip into the rich history of many of the old corporations, and a passing glance at the prodigious industrial progress of those northern and north-western cities that have made her the workshop of the world. The work laid out should have occupied at least twelve months, but I was called home to take part in a more practical and difficult, though not more interesting, inquiry, and a few weeks later, after bidding adieu to the cathedral towns, rich in all the antiquarian loves, and indeed in all that shows the

history of our ancestors, I was speeding through the great centers of industrial energy in the newer western world—travelling by night and listening to testimony in the day.

It was a rare experience, and one calculated to awaken new interest in the industrial and commercial history and progress of England and the United States, and to create a desire for more time and better opportunity for investigation and reflection.

While the average American is better acquainted with what may be called historic England than the average Englishman, the testimony of over six hundred intelligent witnesses before the Tariff Commission shows how little definite knowledge even representatives of American industries have of industrial England. On the important question of the amount of wages paid to operatives in England, as compared with the amount paid for the same work in the United States, but six out of the six hundred who gave testimony presented exact information, and yet the basis of the protective system is the difference in the cost of home and foreign labor. The difference in the purchasing power of wages, another vital element in tariff legislation, was only touched on in a desultory manner by witnesses here and there who had inquired the price of clothing for workingmen at home and abroad, or who from observations believed a dollar would buy more provisions in the United States than in England, or who had arrived at conclusions by reading consular reports. The social condition of artisans and laborers in Europe and America, another important element, was wholly overlooked in the testimony, if I may except a few partisan statements on both sides, none of which assumed a higher value than prejudiced impressions.

These brief hints of imperfections in a labor which Congress decided should be performed so rapidly indicate the rich unexplored field in Great Britain for careful work and study in a direction that cannot fail to be interesting, even if it should fall far short of results important enough to

take part in the settlement of broad economic questions. Four times have I traversed the manufacturing regions of the United States. Once I saw them lurid with the flames of Pittsburgh; and as I traveled from city to city, one day conversing with the socialist in jail and the next day with the capitalist in his marble residence, I had abundant opportunity of observing the weakness as well as the strength of the American system. A few years later, when better times dawned upon the country, I was sent through the same regions and witnessed the awakening of American manufacturing. A third opportunity came in carrying out a branch of the census work, and the fourth with the Tariff Commission. With the knowledge of our home industries that these inquiries have afforded, I have gladly accepted the mission of the *Tribune* to continue the investigation of these questions in Great Britain—to visit the great industrial centres to find out how the working people live and how much they earn; how far capital and machinery and credit are concentrated in the hands of the few; what will be the ultimate effect on her industries of the dependence for food supplies on countries thousands of miles distant; and what are really the chances for a man to rise out of the wage-earning classes. The introductory to such an inquiry must necessarily point out some of the characteristics of the industrial history of the country to be visited; present a general idea of the distribution of the industries and the cities and regions to be visited. With this in view, perhaps no apology is needed for what follows.

II.

ENGLAND—HER START IN THE RACE.

AT the opening of the present century England, though politically a first-class power, had accomplished none of her

prodigious industrial progress. Manchester was not glorying in her tall and ever-smoking chimneys, but was "an inland town of no pretensions for beauty, and at some distance from the sea." Liverpool had scarcely any of her glorious docks. The great ocean steamers which now almost daily ply between New York and England had not yet found their way to her harbor. Leeds and Bradford were not very conspicuous either for trade or manufacture. Even London, the only place of real importance in the kingdom, had not a tithe of the shipping and commerce which now enrich the banks of the Thames.

The quantity of coal annually mined in Great Britain did not exceed ten million tons, while to-day it has reached one hundred and forty million tons. Levi, in his *History of Commerce*, has almost dramatically shown that with the dawn of the present century a rapid and wonderful change was produced in commerce and industry by the expansion of some of the leading commercial towns. Liverpool derived enormous benefits from the extension of manufactures in Lancashire, from the rapid increase of population in the United States, from the new acquisitions of England in Canada, and the extended cultivation of the West Indies. Birmingham felt all the advantages of the opening of the Staffordshire and Worcestershire canals, which enabled her to receive all her supplies of coal and materials for manufacture and building at prices much under the usual carriage rates.

The inventions of Watt, of Hargreaves, of Arkwright, and of Crompton, though hindered by prejudices, were slowly revolutionizing the industrial system of England. "What England possessed then, as she does now," says Levi, "was a geographical situation, the most favorable for purposes of maritime commerce, in close proximity to the continent of Europe, and bordering on the ocean, the great open highway to America; mineral riches of enormous value, and, above all, a people of sturdy race, the Anglo-Saxon, distinguished for an innate sentiment of independ-

ence and right, for energy of character and aptitude for work, for capacity for material conquests, and courage and tact as colonizers and discoverers." At this time, strange as it may seem, of all British industries the cotton was the least conspicuous. Cotton was too dear to enter into the common dress of people, until the ingenuity of Lewis Paul, Lawrence Earnshaw, Hargreaves, Arkwright, Crompton, and Peel gave England the factory system, and changed Lancashire from an agricultural county to the more active and stirring occupations of industry and manufacture.

The woolen was an old English industry. Since the time Defoe took his famous journey through "the Island of Great Britain" Norwich had been known for her baize, Sudbury for her serges, Colchester for her broadcloth, Gloucester for her cloth, and Kendal for her coarse cloth. Even London and York continued for a considerable time to be important centres of the woolen industry. But, says Levi, the increasing prices of provisions, high rates of wages, difficulty of obtaining commodious streams for the scouring and fulling of cloth, and the restrictions imposed by the municipalities, drove the woolen manufacture away to the villages and townships of Yorkshire; and these villages, as I shall show in subsequent letters, were destined to become the greatest woolen-producing region in the world. England never looked favorably on the linen industry, and it was left to Ireland or Scotland. In the iron industry not much progress had been made at the beginning of the present century. In 1768 South Staffordshire had no furnace for making charcoal iron, and only nine furnaces where pit coal was used, producing fifteen tons each per week, while in all other parts of England there were twenty-four charcoal furnaces and forty-four pit-coal furnaces. Though possessing all the materials for the fabric of earthenware, it was not until about this time that the skill of Josiah Wedgwood brought the English potteries into importance. Before this England had depended almost entirely on the importation of pottery from France, Germany, and Italy.

Added to all this came the improvements in the steam-engine and the beginning of an era of chemical discoveries, both important elements in industrial progress.

With these triumphs over physical and moral objects came increasing opportunities of profitable labor and a great increase in the population, especially in the number engaged in manufacture. The large cities had begun to grow. In 1811 England had only twelve cities and towns with a population exceeding 30,000. At the close of the first decade of the last half-century she had thirty-one cities and towns of 30,000 population and upward. Lancashire, Yorkshire, Staffordshire, and Warwickshire, with London, are the most densely populated regions of England, and contain in the aggregate nearly twelve millions, or half the population of England and Wales. Manchester and Salford, which at the beginning of this century numbered hardly 100,000, have increased to nearly 600,000; Birmingham, from 80,000 to over 400,000; Liverpool, from 100,000 to over 550,000; Leeds, from 60,000 to over 300,000. But this great growth of the population of cities in a country that has no land for the unemployed cannot be looked upon as an unmixed good. It has been recently said by a well-known English essayist that the development of industrial England has proceeded with a rapidity altogether unprecedented in human history. This is true, but this enrichment cannot be attributed to Free Trade. The mastery of man over nature has increased in an almost immeasurable ratio during the last generation. Railways, telegraphs, ocean steamers, submarine cables, have brought the peoples of the world together and increased the wealth-producing capacity of man. England stood ready for the race at the start. Professor Sumner said before the Tariff Commission that Protection had put England back a century. What particularly erroneous history of British commerce has the Professor read? With the change in the whole tide of human affairs no legislation could have kept England back a century. Here is what an English reviewer says of this

period: "We English, very lightly handicapped in the race, with our cheap coal, with our densely crowded cities and socialized workshops, with the first-fruits of mechanical invention, with accumulated capital at our command, had the heels of the rest of the world from the start. During the whole of this period, from 1848 to 1878, we had almost undisputed control of the markets of the globe." But at the same time "the leaps and bounds of commerce have given far more wealth to the upper classes than comfort or well-being to the lower." These are some of the questions worth a careful study.

III.

SCOTLAND—INDUSTRIAL CENTERS.

TO-MORROW night I start for Glasgow, where I begin my tour of the industrial regions of Great Britain. Take a good map of the British Isles and glance at Scotland in the vicinity of Glasgow and Edinburgh. Then draw with a pencil a rectangle with one of the four angles at Toward Point (near Greenock and Dumbarton), the second at Dundee, the third at Ayr, and the fourth at Dunbar, and within this space are the manufacturing regions of Scotland. This area includes in some cases all, and in others the most populous parts of the counties of Perth, Fife, Stirling, Renfrew, Ayr, Lanark, Edinburgh, Dumbarton, Kinross, Clackmannan, and Linlithgow. Within this rectangle is an area of about four million acres, or one-fifth of Scotland, and a population of 2,300,000, while the remaining sixteen million acres boast a population of but 1,450,000—estimating the total population according to the census of 1881 at 3,750,000, in round figures. Undoubtedly the growth of manufacturing in this section of Scotland may be largely traced to the coal-fields which are almost entirely within these lines. The Ayrshire coal-

field has ninety-nine coal-mines; the coal-field of the Clyde basin, with Glasgow as a center, no less than 310 mines; further north nearly to Stirling, the Clackmannan basin, with thirty-nine mines; then the narrow basin running east along the banks of the Forth to Kilmenny, with thirty-seven mines; Lothians coal-fields running south-west from Edinburgh, with thirty mines; and at the extreme south-west the Lower Carboniferous coal continuation of the Cumberland region. Nearly one million tons of pig-iron were produced in 1881 in this region, mostly in the counties of Ayr and Lanark. Coatbridge, near Glasgow, is the center of this iron trade, this town and several others in its immediate neighborhood having been practically created by the industry.

Within a limited area, it is said there are more blast-furnaces and a greater output of iron than are to be found in any other region of the world. No less than seventy-two of the places where iron mining is carried on in Scotland are located within the imaginary lines I have designated, and only fourteen places north and ten places south of them. The manufacture of textile goods (both woolen, flax, and cotton) is carried on at 102 places (many of which are very important) within the rectangle, and, including Aberdeen, in about fifty places north and twenty-seven locations south of the lines. The principal points to be visited in this part of Great Britain will therefore be the cities within what may be called the industrial portion of Scotland, comprising Glasgow, with a population of 511,000, which perhaps was never in a more flourishing condition than it is at the present day; yet side by side with its prosperous commerce and its seats of learning, it can show as much misery and can point to as much vice as any city of its size in the empire. The growth of the city is the most interesting feature in its history. Half a million of people fight the battle of life round the spot where St. Mungo is supposed to have pitched his tent. For Bishop Rae's one bridge (finished in 1345) there are now five, and for the sixteen smelting-furnaces of

1830 there are now ten times the number. Iron, coal, cotton, and its dye of Turkey red, enter largely into the causes of its prosperous industry. Time-honored Edinburgh, with 228,000 inhabitants; Dundee, with its population of 143,000, where the linen factories and the iron-works have interruptedly flourished since the Stuarts ceased to trouble the land; the comparatively modern town of Greenock, with 68,000 inhabitants, and its important beet-root sugar interests; Paisley, within seven miles of Glasgow, with a world-wide renown for its manufactures; Perth, the "Fair City," with 30,000, rich in antiquities, and now celebrated for dye-works; Dumbarton, an important seat of the ship-building interest, with 14,000 people; and Stirling, celebrated in history, with a populace at the present time of 16,000.

IV.

THE NORTH OF ENGLAND.

LEAVING Edinburgh and coming south, the next places of industrial importance to visit will be the principal towns of the great northern coal-field of Durham and Northumberland. The cities of this region are Newcastle, with 146,000 inhabitants, where coal was first worked in 1260, and around which over fifty important collieries are located; Gateshead, a place of considerable antiquity and noted for grindstones; Sunderland, near which are some very deep mines; Durham, noted for "wood, water, maids and mustard;" Stockton and Darlington, where the first railroad was laid; and that region of country along the estuary of the Tees, with its center at Middlesborough, which owes its great importance to the expansion of iron manufacture.

The remainder of industrial England can be easily designated on the map by tracing with a pencil an imaginary South American continent, with Lancashire, divided at the

River Ribble, including Preston and Burnley, and the northern boundary line of the West Riding of Yorkshire, for its northern boundary, and Tewkesbury, in Worcestershire, for its Cape Horn, or southern extremity; for the eastern boundary of this great manufacturing area I shall take the River Trent as far as Burton, and then the eastern boundary line of Staffordshire and Worcestershire until we reach the southern point at Tewkesbury; for the western boundary the coast to Liverpool, and then the River Weaver to a point just beyond Nantwich; from thence the western boundary of Staffordshire as far as Bewdley, and from that point the Severn to the southern extremity of Worcestershire. It will at once be seen that I have included in this great manufacturing district South Lancashire, the West Riding of Yorkshire, that part of Derbyshire and Nottinghamshire west of the Trent, the section of Cheshire east of the Severn, all of Staffordshire, and that part of Worcestershire east of the Severn. It includes the cotton, the woolen, the lace, the iron, the pottery, and, indeed, the principal manufacturing region of the empire, and embraces all the great industrial towns. To thoroughly study this part of England is the only road to the secret of her wealth, and the only way of forecasting the probabilities of her continued progress; and in prosecuting this work what a rich cluster of great industrial centers must be visited! Probably in no country can be found in such a narrow area as I have described so many cities famed throughout the globe for the products of their workshops. Beginning at the north-western corner of our imaginary continent with Preston, we find it noted in the seventeenth century for "its checks and unbleached grays;" Burnley is the place where Hargreaves, the carpenter, invented the spinning-jenny; Burnley, a modern town with extensive cotton-mills; Chorley, celebrated alike for its slate, coal, and cotton; Rochdale, the center of the flannel trade; Wigan, famous for cannel coal, tall chimneys, quaint streets, and a church built in Edward III.'s reign; Bolton, a city in which, as

early as 1760, cotton, velvets, and muslins were first manufactured on a large scale by Arkwright's machinery, and in which Arkwright once lived as a barber; Oldham, a noted manufacturing town, whose inhabitants seemed rough, hearty, and industrious, and Warrington, known alike for its cotton, fustians, pins, glass, and beer. Besides these, Lancashire boasts Liverpool, which was made "a port of the sea forever" by Henry II., and Manchester and Salford, the industrious progress of all of which will in themselves be worth the space devoted to this entire letter.

In the West Riding of Yorkshire we have Leeds, with 310,000 inhabitants, which before the woolen trade drifted to Yorkshire was nothing but a moorland tract of little value. Bradford, with a population of 180,000, the great seat of the worsted trade, is only eleven miles from Leeds. It is located on the Yorkshire Hills, where three valleys and three branch railroads meet; and of it was said three centuries ago, "It stood much by clothing." Mr. Walter White, in his record of a walk in Yorkshire, distinguishes between the glories of Leeds and Bradford by describing Leeds as famous for broadcloth, and Bradford as really a grand mart for stuffs and worsted goods. It was probably a boy belonging to a Leeds school who replied to a query put to him at an examination, as to what Bradford was famous for, by saying that Bradford was famous for shoddy. It has been said—and I must say, after spending several days last spring in both cities—with some truth that, with prosperity, something like the envy that exists between Chicago and St. Louis moves the susceptible and sensitive pulses of Leeds and Bradford respectively. The former triumphed when it not only built a lofty town-hall, but crowned it with a lofty tower. The story is told of how painfully the heart of all Leeds was stirred when it was known that a letter had reached the post-office there bearing the inscription, "Leeds, near Bradford." It was as if the Bradfordians had erected a loftier town-hall, and crowned it with a more majestic tower than the edifice of

which Leeds was proud, as a symbol of its supremacy. Near here is Halifax, noted four centuries ago for "a gallows on Gibbet Hill and thirteen houses," now the center of the cloth trade, and contains 74,000 inhabitants. Sheffield, with 285,000 people, black, dingy, and unattractive, in some parts abounding in wretchedness, and yet the great seat of the cutlery trade, and situated in a beautiful location on the River Sheaf, where it joins the Don. Huddersfield, with 38,000 population, stands on the hill, over the Colne, and near here was the nunnery where Robin Hood was bled to death by a nun, and here may still be seen his grave. Dewsbury, where broadcloth and cotton goods are made, and Wakefield, celebrated for wool and worsted yarn and rope factories.

V.

THE MIDLANDS.

IN that part of Nottingham included in the area to be visited we have East Ratford, noted for "hats, sail-cloth, and paper;" Mansfield, for hosiery and lace; Newark, manufacturing "a little lace and more beer;" Southwell, and many smaller manufacturing towns; and, lastly, the Queen of the Midland Districts, beautiful Nottingham. Of this city Herr Hemnich said: "That seems to me the most ancient city that I have yet seen in England." But it has been aptly said that in Nottingham the useful always had precedence of the ornamental. Nottingham made stockings before it made lace; but it was a gentleman, says Dr. Doran, who invented the stocking frame, and an ordinary Nottingham stocking-weaver who first made bobbinet, by so adapting his frame as to make it produce the imitation of lace after it had woven the reality of stockings. Soon after the Rev. William Lea invented the stocking-frame at the

end of the sixteenth century, the old trunk-hose slipped away from the limbs of our ancestors. Nearly two hundred years later—that is to say, in 1770—Hammond, a weaver, was sitting at one of Lea's old-fashioned frames, and as he plied his task his thoughts dwelt on the expensive pillow-lace made of flax thread, by aid of fingers and bobbins, and he thought of the old Italian lace made by the needle, of the costly productions of Brussels, Alençon, and Valenciennes, of Honiton lace, made like the Italian, and of Buckingham lace, which more nearly resembled the commoner point d'Alençon. The result of these thoughts was the far-famed bobbinet which made Nottingham famous even in bazaars of Eastern Ind. It is still the center of the cottonhosiery and bobbinet trade.

In the portion of Derbyshire included in the area under discussion we have the interesting town of Stavely; Derby, noted for lace-making, iron and brass manufacturing, for its ribbons, and for silk-throwing; Buxton, for its "Buxton diamonds," and Chesterfield, for its tobacco factories.

As we enter Staffordshire, the entire county being included in our area, the first important district is the pottery region, including Stoke, Burslem, Hanley, Tunstall, and a number of other places, all of which, since the time of Wedgwood, have been noted for the manufacture of earthenware. The account of the trip through this region will be of considerable interest on the other side of the Atlantic, as the United States still imports over half the amount of earthen and glass consumed. Stafford is noted for boots and shoes; Burton and Litchfield for their famous ale, and Dudley, with 88,000 inhabitants, raised into importance by its iron and coal works; Wednesbury, with 125,000 people, almost wholly engaged in the iron trade; Wolverhampton, an ancient town founded by King Egbert's sister, now the seat of the iron trade of the "Black Country" and containing 165,000 inhabitants. The "Black Country" is a region of Staffordshire covering about thirty square miles of barren soil, beneath which are rich crops of coal, iron, and

stone. There are no fields, no trees, nothing in the landscape but smoking chimneys, heaps of slag, blast furnaces belching forth red flames and the most dilapidated houses where the operatives live. About the mines and furnaces and around the heaps of slag in the Black Country may be seen, by the glare of the furnaces by night and day, the stolid animal faces of the women, with shoeless feet and uncovered legs and arms begrimed with clotted filth, assisting the men in their work. Indeed, savage-featured, reckless, dirty men and women, whose main enjoyment seems fighting and carousing, form the chief attraction of this rich mining and manufacturing district. It has been said that, setting aside the romance of the manufacture of iron under the Britons, we may assert that it is reeking but healthy labor, and not royalty with an offensive *impetigo*, that has made Birmingham one of the most remarkable cities in the kingdom. Labor and the sons of labor have done it all—not suddenly, but by slow degrees. Leland could only say of Birmingham that it was inhabited by "smiths that use to make knives and all sorts of cutting-tools; and many lorimors that make bitts, and a great many nailers." Camden, traveling in the sixteenth century, says, "Most of the inhabitants be smiths." Thus did the great city commence a career of prosperity and usefulness, and to-day, with over 400,000 population, is one of the noted manufacturing cities of the world.

In the district of Worcestershire, included in the imaginary lines I have drawn, are Stourbridge, where glass was first manufactured in 1557; Kidderminster, long celebrated for its carpets; Droitwich, for manufacturing fine salt; Evesham, for its "stockings and ribbons; and Tewkesbury, for nails, cotton, lace, and mustard," for Shakespeare says, "As thick as Tewkesbury mustard." At Worcester, in 1751, the manufacture of porcelain was first established, for which it is celebrated to-day, as well as for the manufacture of gloves. This, with a few important places like Stockport, Northwich, Macclesfield, and Crewe, in Cheshire, comprises

a bird's-eye view of the industrial regions of England. From here we proceed to South Wales, and to obtain a clear idea of the work it will be best to include Monmouthshire, for that with Glamorganshire properly constitutes the great iron and coal district which has Merthyr-Tydvil for its center. A general view of this section and of the south-western counties of England, around all of which clusters much of interest and importance for an inquiry like this, must be left for subsequent letters, as the present one has already reached the limit of the space allotted.

VI.

GLASGOW—ITS TRADITION.

CONSIDERING the hap-hazard manner in which tradition tells us Glasgow was ushered into existence, it has a most uniform and substantial appearance. Indeed, accident surrounded the very birth of its founder, but, perhaps, the less said about that the better. Certain it is, however, if the two wild bulls with their ghastly burden had gone in the opposite direction, the saintly Mungo would have followed them. But the strange *cortége* arrived safely on the site now occupied by Glasgow Cathedral, and it must have been here, near the stream in the dark ravine, that St. Mungo built his hut. At that time in the forest, on the site of the eastern or manufacturing quarter of the present city, dwelt a class who loved war and had an appetite for human flesh. It is said of them that they cared much less for roasted sheep than for a roasted shepherd, if he were but young. Shepherd or shepherdess was all one to these proto-Glasgovians, who were nice epicures, and had their favorite slices in the richest parts of their victims. With such queer neighbors it must have been an accident that the young and tender saint was not "called" to administer to their bodily instead of their spiritual appetites.

However, on religious grounds the inhabitants prayed

him to remain, and a bishop was sent for from Ireland to consecrate St. Mungo to the holy office to which he had been elected. His success was immense. People who were disrespectful to him met with fearful deaths; he sowed sand in the fields and reaped good and wholesome grain; under his guidance wolf and stag worked together at the plow; barns filled with grain were moved from one part of the country to the other; the king kicked him and immediately the foot thus ingloriously applied was attacked by gout. In time, like all great men, he became unpopular, and then he departed for Wales. But the Glasgow people would not let him remain, and the saint was persuaded to return, and afterward transferred his cathedral to Glasgow, where he continued to perform as extraordinary miracles as he had done before. Perhaps to some of these the people of Glasgow are indebted for early lessons in the honesty for which they are noted. Under the influence of the pious St. Mungo, the heads of stolen sheep became petrified and fixed on the hands of the thief, and the mills on the banks of the Clyde would not grind stolen grain. These same mills would not work during church hours on Sundays; and I noticed that this goodly example has likewise been followed to this day, for in Glasgow, unlike the English cities, those modern mills of gin and destruction are not opened on Sunday, as the law is rigorously enforced. The dislike for Sunday trading is clearly shown in some statistics which the chief-constable, Captain McCall, gave me this morning. During the last decade, annually, at a date unannounced in advance to the shopkeepers, the police have visited and taken a census of the shops and other places of business found open within the City of Glasgow and doing business at any time during the day, with the following almost uniform result:

1872.....	2,019	1877.....	2,031
1873.....	2,048	1878.....	2,243
1874.....	2,032	1879.....	2,218
1875.....	2,074	1880.....	2,243
1876.....	2,109	1881.....	2,209

Of this number not one public-house is reported to have been found open. Of the 2,209 places found open last year, 859 were fruit and confectionery shops, 277 groceries and provisions, 610 milk-shops, 113 green grocers, 179 druggists, and only 59 tobacconists. The others were as follows: Barbers, 11; eating-houses, 29; fruit-stores, 4; news-rooms, 3; pie-houses, 14; fleshers (butchers), 9; stationers, 23; coal-dealers, 9; bakers, 3; baths, 1; undertakers, 5; cab offices, 1; total, 2,209. These facts form a strange contrast to the wholesale Sabbath-breaking of such cities as Chicago, where the open theatres, variety shows, concert-halls, and saloons make a saturnalian feast-day of Sunday; and yet Glasgow, like its sister city of the West, has over half a million inhabitants.

As the good-natured chief constable of Glasgow slowly read off these exhibits of the Sunday raids on a class of shops which seem almost necessary to the comfort of the poorer classes in the city, my mind reverted to the accounts of the even more strict supervision of the streets less than a century ago. From 12 o'clock on Saturday night, in Glasgow, when the Sabbath began, to 12 o'clock on Sunday night, when it finished, all the gates of the city were closed, and no one was allowed to pass in or out, save on very special necessity. In the daytime, as we read in "Rob Roy," "searchers" were appointed to take note of all persons idling on the highway or drinking in taverns, or even in their own houses, during kirk-hours. A man who shaved himself, or a barber who dressed his wig on the Sabbath risked being led up before the Kirk Session. The sale of milk was even forbidden on Sundays. The Glasgow people of those days would almost stone a man for whistling a call to his own dog on Sunday, and they cast a scornful look on the unrighteous who sought for fresh air in the fields, meadows, or country lanes. It is said this lasted until 1820. Indeed, as late as 1876 a man was taken up and actually convicted and fined for singing "Willie brewed a Peck o' Malt" in the streets on the Lord's day. It is said

he pleaded that he sang the words to one of Moody and Sankey's hymn-tunes, but that did not save him.

Robert Chambers describes Glasgow, in the latter half of the sixteenth century, as a mere "little town," with the distinction of possessing a university and of carrying on a small coasting trade. The townsmen, and indeed towns-women also, were a choleric race, given to cry loudly, to strike fiercely, and, moreover, to be as ready with the sword or pistol as with fist and tongue. Shots were fired "promiscuously" in a crowded market-place or barroom. Glasgow tailors carried swords on their thighs like gentlemen, and angry Glasgow wives had words on their tongues not at all like those used by ladies. The manufacturing enterprise of the people had dawned even at this early date, and Scottish nobles became traders and manufacturers. In 1688 Viscount Tarbat was chief partner in a little manufactory in the city, which paid very good dividends. Though not free from the many semi-barbarities characteristic of the times, the population were "canny" and enterprising. They were patriotic, too, for when the town-surgeon, in speaking of the city itself as "the hungrie toune of Glasgow," this "odious and grit offence" was punished by applying the unhappy doctor's pension for the year to "the common works of the toune." In 1652 about one third of the city was destroyed by fire. After this the Council sent "a man of practical experience" to Edinburgh "to visitie the engyne thair for slackening of fyre." A fire-engine was finally bought, and is thus quaintly described in the proceedings of the Council: "An ingyne for castyng of water on land that is in fyre."

VII.

GLASGOW—INFANT INDUSTRIES.

THOUGH the modern Glasgovians are all free traders, their ancestors exhibited a tender regard for infant industries, and some of the early attempts to encourage manufactures are worth mentioning. One of the first subsidies was the sum of 2,000 marks (£111 2s. 2½d.) to a couple of enterprising citizens "for the working of their coal-pits in the Gorbals for thirteen years." The bakers having "failed to make sufficient bread for the inhabitants," the Council agreed to import "two honest baxters from Edinburgh," who were to come to Glasgow on the undertaking that they bake as good wheat bread as was baked in the metropolis. The first printer of the town having died, for some time Glasgow was without one of this craft. In this, as in nearly all other things, the Council seems to have been equal to the emergency. A printer, therefore, was sent for from Edinburgh, and as a salary the town agreed to pay him yearly during his lifetime the sum of 100 marks (£5 11s. 1½d.). In addition to this, money was allowed him for transporting his apparatus from Edinburgh. The growing desire for news is shown by an entry in the Council minutes, 5th September, 1657, which states : "The said day appoynts John Flyming to wryt to his man guha lynes at London, to send hom for the towne's use a weiklie ane diurnall."

Dr. Doran gives an account of a man who appeared in Glasgow in the last year of the seventeenth century, who has been rather ungratefully forgotten. His name was Wilson; he was born in Flakefield, and in so far as he is remembered at all it is by the name of his birthplace. He had been a weaver before he served as a soldier in the Continental wars; and while so serving in Germany his eye was one day attracted by a woven blue-and-white chequered handkerchief. It was a lucky moment for Glasgow when Flake-

field bought this article. He stowed it away among his treasures, and he resolved "some day" to weave one like it. In the year above named he and the prized handkerchief, with Flakefield's father and brother, settled in Glasgow, and there the ex-soldier, returning to his old calling, attempted to produce a woven blue-and-white checkered handkerchief. After some unsuccessful essays, Flakefield succeeded, and the blue-and-white checks were soon familiar all over the country. Fresh set-up looms could hardly produce these articles fast enough, and on them the extensive linen manufacture of Glasgow was founded.

Probably the best early description of the Glasgow manufacture was that written by the author of "Robinson Crusoe," who early in the eighteenth century made "a tour of the whole Island of Great Britain." I have seen one of the original copies of the work containing the account of this remarkable journey; and while it has been claimed by some that Defoe did not visit more than half the places described, his descriptions are even to this day good. In this account Defoe speaks of "the fifty sail of ships sent every year to Virginia, New England, and other English Colonies in America," of the excellent manner in which they cured herrings, of the "handsome sugar-baking houses carried on by skillful persons," how they were "freed from English duties" by "distilling spirits from molasses." Again Defoe says: "Here is a manufacture of plaiding a stuff cross-striped with yellow, red, and other mixtures, for the plaids or veils worn by the women of Scotland. Here is a manufacture of muslins, which they make so good and fine that great quantities of them are sent to England." "The Scots," he said, "have woolen manufactures of their own, such as Stirling serges, Musselberg stuffs, Aberdeen stockens, Edinburgh shalloons, blankets, etc. The trade with England being open, they have now all the Manchester, Sheffield, and Birmingham wares, and likewise the cloths, kerseys, halfthicks, diffels, stockens, and coarse manufactures of the north of

England, brought as cheap or cheaper to them by horse-packs as they are carried to London, it being a less distance. They have linens of most kinds, especially diapers and table-linen, damask, and many other sorts not known in England, and cheaper than there." Defoe also speaks of the fact that the poor Scotch servants were willing to emigrate to Virginia and become thrifty planters, and not, like the English, to turn thieves and be sent there to save them from the gallows. This brief quotation from Defoe gives the origin of Glasgow's commercial and manufacturing greatness. It is evident from the tone of the English writer that Glasgow was then becoming a place of manufacture. Its people were inspired by the spirit of commerce and trade, and they stood ready to enter upon whatever exhibited any prospect of success. It is clear, therefore, that its people were from the beginning busy in the endeavor to extend the local industries, and to engage in the augmented traffic with foreign countries for which they have since become so famous. Such was the Glasgow of the past.

VIII.

GLASGOW TO-DAY.

THE Glasgow of to-day is a fine, handsome, squarely built city, which, if it were not for its gloom and its uniformly square brown-stone buildings, would remind one of Chicago. There is lots of enterprise, lots of pluck, lots of "go-aheaditiveness," lots of manufacturing, and lots of business. In some particulars, let me say at once, the two cities are not comparable. Glasgow is one of the best-paved cities of its size in the world, while Chicago is probably the worst. Glasgow is noted for its Sabbath-keeping; Chicago for its

disregard of the Lord's day. Glasgow has antiquities. I was about to say Chicago has not, but the last time I was rummaging over an old book-store in Chicago I came across a work entitled "Chicago Antiquities;" and then it must be borne in mind that blocks of stores twelve months old are not considered new in Chicago. It is really surprising to note how few really poor, miserable buildings there are in Glasgow. To be sure, one is reminded of the wooden shanties of Randolph Street, on the way out to Elder's ship-yard along the Paisley road; but they are merely small shops. The worst part of Glasgow is, strangely enough, in the center, extending eastward to the Cathedral, and with the Clyde for the southern boundary. In the south-east part of the city, the cotton and iron factories are mostly located. Indeed, it is the great manufacturing quarter. The people seem very comfortable, and, while gin-palaces abound on all hands, I have been through much worse neighborhoods in large cities in the United States. The west end is the finest residence part of the city, and on the south of the Clyde, two or three miles from the center, are the great ship-yards. The Chief Constable told me that the most troublesome part of the city was the center. Here in a small area 300 of his 1,070 policemen are stationed. The five other divisions of the city share the remainder. The total number of crimes in the city for 1881 was 9,452; of that number 3,084 were petty thefts, in which property stolen was valued at under five shillings. The Chief Constable informs me that, taking twenty-three years of the criminal history of Glasgow, crime in the city reached a maximum in 1867, and receded to a minimum in 1871, the number of cases being 10,899 and 7,521 respectively. Only one man was charged with murder during the year, and his sentence was commuted. What would the State Attorney of Chicago think of this, as the number in that city reaches twenty in some years?

The close proximity of Glasgow to the iron-fields has made the iron and steel industry one of the staple industries

of the city. The Glasgow exchange is the scene of the sale of this manufacture. For twenty years the average production has been over 1,000,000 tons annually, and in 1881 it reached 1,176,000 tons. It will be about 40,000 tons less this year. But this industry as well as the ship-building and textile industries will each be important enough for a special letter after I have visited all the manufacturing towns within the rectangle described in the preceding letter.

The Glasgow *Herald* on Tuesday published verbatim such of the schedules of the Tariff Commission report as affected the Glasgow interests. Of course, it included chemicals metals, sugar, cotton, flax, liquors, woolens, and two items in the sundry schedule. Sugar-refining is an important industry here and at Greenock. Almost all varieties of textile manufacture are now carried on. The estimated value of the ships and shipping machinery may be said to be \$40,000,000. The total number of men employed in the thirty-seven yards on the Clyde and its tributaries is estimated at 50,000. One yard which I visited yesterday employs 5,000 hands. From these yards in 1881 were launched the "Servia" (7,392 tons), the "Alaska" (6,932 tons), the "Austral" (5,600 tons), the "Missouri" (5,146 tons), the "Belgravia" (5,075 tons), the "Rome" (5,013 tons), and the "Carthage" (5,013 tons) twelve iron ships of from 4,000 to 4,911 tons, thirteen of from 3,000 to 3,972 tons, and thirty of from 2,000 to 2,989 tons. The year which is drawing to a close (1882) has been one of unusual activity on the Clyde. The builders have surpassed all their previous efforts. From 35,709 tons in 1859 they have increased to 301,934 tons for 1882. This exceeds 1881 by nearly 51,000 tons, while it is nearly 130,000 tons in excess of 1874, which was for some time considered the greatest year in the history of Clyde ship-building. It is said that wages in the ship-building industries were never so high as now. This, as I shall show in subsequent letters, does not hold true in other industries. From the most trustworthy sources I have obtained the fol-

lowing table, showing the weekly wages paid in 1882 in Glasgow for the trades indicated:

Blacksmiths and eng'rs.....	\$7.50	Do., newspaper offices,	
General smiths	7.50		\$7.00 to 8.00
Bootmakers.....	7.25	Masons.....	7.50
Bricklayers	7.50	Moulders	7.50
Cabinet makers.....	7.40	Painters.....	7.50
Calenders.....	7.00	Plasterers.....	7.50
Curriers	6.50	Plumbers.....	7.50
Coopers.....	6.00	Porters.....	5.00
Gilders	7.50	Sawyers (by piece)	6.50
Carpenters	7.50	Slater.....	7.50
Laborers	4.50 to 5.00	Tailors	7.25
Printers.....	7.50	Turners and fitters.....	7.50

The cost of living in Glasgow will be seen by a glance at the following table, which may be trusted as accurate:

Oatmeal, per stone (14 lbs.) 50 cts.	Buttermilk, per Scotch pint 2 cts.
Potatoes, per stone (14 lbs.) 12 "	Cheese, per lb..... 16 "
Beef, first quality, per lb. .25 "	Fresh butter, per lb. 40 "
Beef, second quality, per lb. 18 "	Salt butter, per lb. 26 "
Beef, third quality, per lb. 14 "	Black tea, per lb. 24 "
Bacon, per lb. 18 "	Brown sugar, per lb. 5 "
Pork, per lb. 18 "	Brown soap, per lb. 5 "
Bread, 1st quality, per 4 lb. 17 "	Black soap, per lb. 6 "
Bread, 2d quality, per 4 lb. 15 "	Coal, per cwt..... 14 to 16 "
Sweet milk, per half gallon. 16 "	

Rent for single rooms I found varied from \$22½ to \$25 per annum; two rooms from \$37½ to \$40 and \$47½; three rooms, \$60 to \$75 per annum. It will be impossible to draw any conclusions from these figures until I have obtained similar statements from all the other cities. It will be observed that iron and steel workers, ship-builders and the textile trades are not included. An attempt will be made to present facts more in detail in the letters especially devoted to these branches. Upon the whole, I was agreeably surprised with Glasgow, both in its appearance and with the condition of its people. A great deal of money is spent in drink, and there are, with all the strict police surveillance, more public-houses than are necessary—in all about 1,800. Forty years ago it was said of Glasgow that

every tenth house was a spirit shop, and that the per capita proportion of whisky consumed was twice as much as in any similar population. To-day the proportion is one public-house to every 285 of the population. It is hardly probable, taking it all in all, that I shall find in the trip mapped out a more flourishing and prosperous city.

IX.

PAISLEY—THE BEWITCHED WEAVER.

THE elements are beautifully mixed in this section of Scotland. By the elements I do not allude to the weather, nor to the characteristics of the people, but to the elements that go to make up the country and its surroundings. It is not exactly a farming country, for within a radius of ten miles of Glasgow is Coatbridge, the center of a great iron region, and this city, with nearly 60,000 population, chiefly engaged in textile manufacturing; but to reach either of these points from Glasgow you pass through widespread, fertile plains, or a charming farming country agreeably diversified by gentle risings, by woods, by water, by rocky ravines, and, in short, by all the constituents of the soft, the beautiful and the grand. Here,

'Midst nature's wildest grandeur,
By rocky dens and woody glens,

are planted, especially in the Coatbridge district, unpoetical blast-furnaces, the lurid flames from which at night add to the wildness of the scene. So rich is the land that the very slag around the pit's mouth looks green, and the dinginess ends with the works and the verdure of the fields begins. I was attracted in one instance by a neat farmhouse, with a dozen stacks of grain in the barnyard, and on the other side, a few rods from the garden, a fair-sized

blast-furnace. This, indeed, was bringing manufacture close along the lines of agriculture, as the political economists say. On a misty morning the tall chimneys of the iron-mining villages in the Coatbridge district seem to peer up from the fields, and, enveloped in their own smoke, they look more like phantoms than the dreary realities with such black landscapes as one sees in the North of England regions or in the Black Country. And the same is true of the cities. You plunge out of the country, as it were, into the center of Glasgow. You leave Elder's great shipping-yard, and to the west is the country; I might almost say to the south also.

At Paisley you are more confused than ever. At one end of the town is Clark's enormous thread factory, capable of employing over 4,000 operatives. On the one side it seems to be in the midst of a busy city; turn around and you see the rolling hills and pleasant meadows of a Scotch landscape. Walk across the town for about two miles and you enter Coat's mill; leave it on the south side and you step into the green fields. Look at this region for a moment from an historical point of view, and the strange mixture of the ancient and the modern presents itself—the traditions of the past and the possibilities of the future; in short, the cloisters and the busy mart seem so jumbled together that even a practical chronicler hesitates whether to begin with the social condition of the mill operatives, or with a few meditations on Paisley Abbey.

Perhaps rather more of truth clusters around the early history of Paisley than that of Glasgow. At any rate, all historians seem to agree that the beginning of its manufacturing greatness may be traced to a young person who was certainly guilty of a terrible crime. The story goes that in 1697 a daughter of the Laird of Bargarren, named Christina Shaw, preferred a charge of bewitching her against a servant-girl with whom she had quarreled, and nineteen alleged confederates, seven of whom were condemned and six of the number actually burned on Gallow-green, Pais-

ley. The inciter to this act of superstitious cruelty is said to have subsequently acquired great skill in spinning fine yarn. Her first productions were sold at Bath to the lace-makers. Stimulated by this, Mistress Shaw extended her transactions to Holland. The demand for this thread soon became great and the most extensive manufactures that arose in Scotland at that period acknowledged "the bewitched lady" as their originator. It has been truly said that for variety of textile manufactures and for the persevering ingenuity with which her traders followed and even controlled the caprices of fashion, Paisley deserves the very highest credit. While weaving and its allied occupations have come from many causes to occupy merely a secondary position in Glasgow, the town of Paisley is yet, as it has been now for nearly two centuries, a principal center of one or other of the numerous leading forms of textile manufacture. Fashions have changed, fabrics of numberless kinds have come into use and died out, but Paisley has always been found equal to the occasion; at one time by the very excellence and beauty of her fabrics compelling fashion to accept the products of her looms, and again when the fickle dame must have a change, the Paisley weavers bowed to the necessity and adapted their looms to the varying requirements of different periods. Much of this must be due to the intelligence and adaptability of the operatives, as illustration of which a story is told of a man who had a great rope-walk near Glasgow. Having quarreled with his workmen, they all left. A few weeks later he was astonished to find them all sitting on fine lawn-looms at Paisley. Before the invention of machinery spinning and weaving were carried on in nearly all the little farm-houses of this beautiful part of Scotland. In the winter evenings the females with their rocks and spindles, or spinning-wheels, assembled in each other's houses, and "song, story, and joke enlivened the circle, while they spun their stint of tow."

The inventions of Hargreaves, Arkwright, and Crompton gave, in the last quarter of the eighteenth century, the

death-blow to the occupation of Scottish spinsters, who were inevitably supplanted by the factory operatives of the present day. About the end of the last century weavers were the best paid and most highly respectable class in the West of Scotland. From the best paid they gradually declined, through a variety of causes, to the worst, and the unfortunate weavers fell into an abject and miserable condition, indescribably sad, and bitter almost beyond endurance to those who could recall the days of their prosperity. Moral, social, and physical degradation ensued, until the condition of the weavers became a question for Parliamentary inquiry. The result of this inquiry brought out the following extraordinary decline in earnings:

1806.....	30 cts. per ell—\$7.80 per week.
1810.....	25 " per ell— 6.40 per week.
1815.....	24 " per ell— 6.18 per week.
1820.....	10 " per ell— 2.40 per week.
1825.....	10 " per ell— 2.40 per week.
1830.....	6 " per ell— 1.22 per week.
1835.....	7 " per ell— 1.58 per week.
1838.....	7 ' per ell— 1.58 per week.

To relieve the distress of the weavers emigration was resorted to, and at the present day, says Paton, only a remnant of the great wreck continues to ply the ancient calling in the Scotland villages of the West, where in earlier days the sound of the shuttle was heard all day long in almost every cottage. From an industry prosecuted in almost every farm "toon" and cottage throughout the country, the weaving trade gathers its materials from all parts of the globe, and the work of spinning is carried on in immense factories like those at Paisley and Glasgow, and indeed in many other thrifty Scotch towns. Perhaps this little dip into history explains why the fields begin at the very walls of these factories.

X.

PAISLEY—LIKE A FAIRY STORY.

THE history of textile manufacture in this quaint old city is almost like a fairy story. To study it thoroughly by the aid of the public records in its fine library, and the numerous samples of its manufacture and models of machinery in the museum, would be to master the art of weaving from the earliest time to the latest improvements. At present the most outstanding and peculiar feature of Paisley manufacture is that of thread. From here, I am told, is probably sent out a greater length and weight of sewing thread than from all the other factories of Great Britain combined. Worsted shawls and shirtings are a feature of the Paisley trade of great importance. Mouseline de laine, a thin worsted fabric which was printed with steam colors, was for a long period an important branch of manufacture here, which the vicissitudes of fashion have now extinguished. The weaving of imitation Cashmere shawls was first attempted at Paisley in 1802. From that time onward shawl-making gradually superseded the manufacture of muslin. In brief, it might be said that, beginning with coarse linen checks, the first fabrics produced by the Paisley looms, to these succeeded others of a lighter kind, such as lawns, both figured and plain. Silk gauze then took the lead, about the year 1760, and Spitalfields soon yielded to its more successful competitor; for such was the celebrity of Paisley gauze that warehouses were engaged for its sale in London, Dublin, and Paris. In 1784 no less than 26,000 persons were employed at Paris in the fabrication of this article, together with sewing-thread, lawn, and linen. But the demand for the popular gauze rapidly decreased. Muslin, cambric, and cotton thread were the next production of Paisley industry and skill; to these suc-

ceeded silk and cotton shawls, scarfs, and plaids, composed of silk and merino wool. These still continue to exhibit the ingenuity and taste of the Paisley weavers, and in the manufacture of them they have arrived at great perfection. In Paisley and its neighborhood are numerous thread and cotton spinning-mills, bleaching and printing works, dye-houses, power loom factories, iron and brass foundries, engineers' and wheelwrights' shops, timber yards, a brewery, distilleries, soap, starch, and corn-flour manufactories, and a very extensive tannery.

The wages of the weavers and the employment afforded to them still fluctuate in the wildest manner. When any particular fabric or pattern has the good fortune to "take," and a run on it is established, wages go up. But after a rush a time of absolute idleness, or only flickering work at low rates, may be the rule for weeks together. The two great thread mills are running "slack time" just now, and not employing their full number of operatives. Clark's mill has now about 3,000 on the pay-rolls, 2,500 of which number are women and girls. Mr. Coates informed me his mills were employing about 1700. I visited both these mills and had an agreeable chat with the heads of the two firms.

The operatives of Clark's mill are scattered all over what is called the new town, sometimes occupying whole streets, and again interspersed with the dwellings of small shopkeepers and mechanics. Many of them live in large, square, substantial but dingy-looking storehouses, divided on the flat principle, though, excepting a common entrance, lacking most of the conveniences that distinguish the system in France and America. Three or four rooms are generally included in one flat, the rent varying from £10 for the ground-floor, and decreasing with the successive floors above, until it reaches the minimum of £6. In addition to rent, of course, come taxes, including poor rates, etc., which in England amount to about one-fifth of the rent, but which in Scotland are hardly so great. Of the few rooms one is generally dignified into a parlor, through the medium

of a gay carpet, a few plainly upholstered chairs, a painful sofa, plenty of netted antimacassars, some cheery chromos on the wall, and on the square center-table a family Bible, a copy of Burns, two or three volumes of "Waverley," and sometimes a well-worn album. Much of the comfort of even such a home as I have described comes from the joint earnings of the family, with the exception of the younger children. Of lodging-houses for girls, such as those at Lowell, there are none, those who come from the country or Glasgow finding homes and a certain degree of protection with some of the mill hands; as a rule only one or two are received in a family.

I visited a dozen or so of the flats just spoken of, and, though with no apparent excuse for personal questions, was received with simple cordiality on the self-introduction of "A visitor from America, curious to see Scotch people in their own homes." My queries were answered readily and with an intelligence hardly expected. At one place I found a little old Scotchwoman, with pink cheeks and a white cap, who managed to take care of an invalid daughter and three others, all young girls, who worked in Clark's mill. Struck with the surroundings, which were unusually neat and attractive, I asked the daughter, Janet, whether she considered her home as above that of the average mill hand in comfort.

"It may be better than some, but it shouldna, for in Paisley poverty means drink, and among my ain folk there is na' drinking; we have not a mon in the house."

"How much do your sisters earn?" I asked.

"Just now is slack time, sir; they only work from six till two, making a pound a fortnight, which is now the average wages of the mill hands here. When they work full time they make more."

"What sort of character does the mill girl generally bear?"

"I have been employed in one mill over twenty years, and found them to be generally good. If a body is seen to be 'light,' she is sent awa."

"How is it, then, that so many single women with children are retained in the mills?"

"Ay, sir, they have been very respectable, and when one has a misfortune of that kind we all feel sorry, and try and help her get ready for the poor bairnie."

Many of the Paisley operatives do not earn over eight shillings a week (\$1.92) in slack times, and hence numerous homes where the rooms occupied are poor and dirty and almost devoid of furniture. But in nearly every instance of this kind the reason may be traced to drink. Both the sober and thrifty operatives and the mill owners agree that most of the misery and want in fairly prosperous times is caused by the misuse of liquor. I observed the stream of girls leaving both the great thread mills. Most of them were warmly clad, but perhaps a score tramped through the cold slush without shoes. Not any of them had bonnets. They were, upon the whole, a superior class of girls to those I have seen coming out of the mills in Manchester; but they would not compare with the neatly dressed girls, with shapely American shoes, neat hats, clean collars or ruching round the neck, with umbrellas in rainy weather and sun-shades in the summer, that one can see at noon coming out of the Merrimac Mills at Lowell, or with the 3,500 girls employed in Conant's thread mills at Pawtucket—merry, tidy, and rosy-cheeked, from their rides to and fro to their country homes—in comfortable wagonettes drawn by stout horses.

XI.

THE CLYDE.—CLASSIC RIVER OF THE SHIP-BUILDER'S ART.

THE Clyde has long had a sort of classic interest in connection with the two cognate arts of ship-building and marine engineering, and no river in the world has done more to bring them to their present high state of perfection. Iron

ship-building at present thrives most on the Clyde (Glasgow), the Tyne (Newcastle), the Mersey (Birkenhead), and the Wear (Sunderland), while it also prevails to a great extent at Hull, Bristol, Chester, Southampton, and other ports in Great Britain. It is the ship-building of the Clyde, however, that will be made the special topic of this letter. As early as 1835 progress had been made in ship-building on the Clyde, and during the next five years the trade began a vigorous infancy. Previous to the time of Henry Bell, ship-building was not unknown on the Clyde; but his valuable gift to the world in the way of demonstration of steam navigation was the means of instituting ship-building and marine engineering as industries which in a few years came to be regarded as especially belonging to Glasgow and the Clyde. The pioneer steamers of the Cunard Line, founded in 1840, were built at Port Glasgow and Greenock. Robert Napier was one of the first builders, and during the Crimean War he built his first iron-clad, the "Erebus." In 1852 John Elder, now probably the largest ship-builder in the world, who had been an apprentice with Robert Napier, joined with Charles Randolph and laid the foundation of a business which this year turned out nearly 32,000 tons of iron vessels and employs more than 5,000 men.

Many circumstances have contributed to make Glasgow and the Clyde famous for the position which they have attained in the application of iron ship-building. Skill in mechanical construction has become almost an inherited faculty, as evidence of which one can refer at least to two if not to three generations of Napier, Dennys, Duncans, Elders, Neilsons, etc., in the industries in question. John Mayer, in his sketch of the engineering and ship-building industries of Glasgow and the Clyde, divides the history into six periods. Of course the first period began with the "Comet," which commenced to ply in 1812 between Glasgow and Helensburgh, and was designed by Bell, and her rate of motion about five miles an hour. The second period was inaugurated by David Napier, and was the beginning of the

practical adaptation of the steam-vessel for deep-sea traffic. The third period, 1822-30, brought many changes, mostly in the engines, and brought up the speed to ten miles an hour. Most of the vessels built in the fourth period, 1830-40, did some remarkable work, especially in regard to the regularity and speed with which they performed their voyages. The next period produced the famous Cunarder "Britannia," which made the first voyage from Liverpool to Boston in fourteen days eight hours, and opened a new era of commerce. The sixth and present period is that of John Elder and the compound marine engine, the period of the "Arizona," the "Alaska," and the "Oregon."

"What will be the next era?"

Perhaps in turn the highest apprentice of Elder's shops, who the other day remarked to me with pride, as we looked at a magnificent engine almost ready for the steamer, "That's the Governor's own engine," may yet so economize power that the Atlantic will be crossed in five instead of seven days. Or perhaps the next step will be twin screws instead of the single screw, while, instead of sixteen, eighteen or twenty knots an hour will be the normal speed.

The following is a comparative statement of the gross tonnage built on the Clyde during the last five years : 1878, 215,640; 1879, 173,820; 1880, 242,774; 1881, 540,823; 1882, 395,149; total, 1,368,206.

Among the productions of the last year was the "Alaska," the greyhound of the sea, but the Elders are not contented to rest on their laurels, and the "Oregon," which is now on the stocks, is expected to outstrip even the "Alaska." Last Tuesday I was at Clydebank and witnessed the launching of the "Aurania," the new steel Cunarder. She could carry sufficient coal to enable her to go around the world at fifteen knots an hour without calling at a port to replenish. The engines are capable of developing 10,000 horse-power. Mr. Thompson, in a speech at the launching, said that he believed the ships of the future would have no masts, the twin machinery so largely increasing the safety. The attainment

of twenty knots, he also said, would, in his opinion, be the limit of speed reached in vessels of anything like reasonable dimensions. This, in brief, gives the history of ship-building on the Clyde from the days of the "Comet," forty feet long, with a ten-foot beam on engines of three-horse power, to the forthcoming "Oregon," 530 feet long, 54 feet broad, and engines equal to 13,000 horse-power.

The metropolis of this district, as we have already seen, is Glasgow. The industrial classes have not improved here greatly under free trade. According to that eminent free-trade authority, John Bright, in the city of Glasgow alone 41,000 families out of every 100,000 families live in homes having only one room, and from my own observation I should judge that Mr. Bright underestimates rather than overestimates the fact; and, further, he says that 78 per cent, or nearly four-fifths, dwell in homes of one or two rooms, and that in Scotland nearly one-third of the people dwell in homes of only one room, and that more than two-thirds, or 70 per cent, of the people of Scotland dwell in homes with no more than two rooms. After reading these words from the patron saint of free trade, there will be few persons inclined to doubt the impartial statements in the Scottish series of letters on Dundee.

But what are the wages in the shipping industry in Scotland, and what are they here? asks the American workman. The Delaware figures are vouched for by Cramp & Sons, ship-builders; those for the Clyde are taken from the report of the chief of the Statistical Department of the Board of Trade, London, good free-trade authority. Here they are—the Clyde and the Delaware side by side:

OCCUPATIONS AND ALLIED BRANCHES OF LABOR.	Per Week in Glasgow.	Per Week in Philadelphia.
Foremen (men).....	\$10 00	\$30 00
Planters (men).....	7 50	18 00
Fitters (men).....	7 50	15 00
Fitters' slippers.....	5 00	9 00
Drillers.....	6 00	10 50
Hole-cutters.....	5 00	9 00
Riveters.....	5 00	12 00
Angle-iron smiths.....	5 00	14 00
Ship-smiths.....	5 00	18 00
Ship-smiths' boys.....	2 50	4 00
Ship-smiths' strikers.....	4 50	9 00
Forgemen.....	4 50	9 00
Holders-up.....	4 25	9 00
Helpers (boys).....	2 50	4 00
Calkers and chippers.....	7 50	12 00
Ship-carpenters.....	7 75	18 00
Joiners.....	7 25	15 00
Joiners' laborers.....	4 25	6 25
Sawyers.....	5 25	...
Riggers.....	4 80	11 00
Riggers' laborers.....	4 25	9 50
Painters.....	5 00	15 00
Engineers.....	5 75	12 00
Laborers.....	4 10	6 75
Heelers (boys).....	2 00	4 00

XII.

DUMBARTON—PICTURESQUE AND BUSY.

YESTERDAY Mr. James Henderson, Factory Inspector for Scotland and Northern England, and a gentleman who has given considerable study to all economic questions, invited me to visit and inspect the ship-building yards of the Dennys, who have probably built 50,000 tons of steam shipping during the last twenty years for the British India Steam Navigation Company, and who turn out some of the

handsomest-fitted ships in the world. They have also built many vessels for the Austrian Lloyds Steam Navigation Company. The yard is located at Dumbarton, under the shadow of the picturesque Dumbarton rock, and the tower on the top of which the Scottish hero Wallace was once confined. The town, which now contains nearly 15,000 inhabitants, has been much indebted to the energetic enterprise of the Denny family, who employ many men. It is about half an hour's ride by the railway from Glasgow, and on the road Mr. Henderson pointed out to me the town which the Singer Sewing-machine Company are building in the suburbs of Glasgow, and their new shops capable of employing more than 5,000 hands. It is said that the company propose to furnish the foreign demand for their sewing-machines from this shop, as labor is so much cheaper in England than in the United States. A little further along, the genial Inspector of Her Majesty's workshops, pointed out one of the largest chemical works in England—the North British.

"In that works the other day," he dryly remarked, "a man fell into a vat of red-hot caustic potash."

"Poor fellow!" I replied; "killed instantly, I suppose?"

"Nothing but the iron heels of his boots ever found," responded the inspector.

"There," said my companion, "is Lord Blentyre's estate;" and he pointed to a mansion on the opposite side of the Clyde. A stingy lord, Blentyre; he sold the railroad company the land on the bank of the Clyde opposite his residence, and after the road was built sued the company for £10,000 for spoiling the view from his mansion. So great was his influence in the House of Lords that the company was obliged to pay it. Further along we passed Bell's monument; and then amid the mist towered up the black rock on the summit of which stands the celebrated Castle of Dumbarton, the scene of many an historical struggle between the English and Scottish chiefs. We found every one, from the young Mr. Denny to the apprentices, busy. A fine

steamer had just been launched, and a gang of men, of at least a score of different trades, were at work on the interior. Another steamer not so far advanced lay alongside of her. In the yard were steamers in various stages of advancement; some with the keel just laid, others looking like huge black skeletons, others partly plated, and some with the first coat of paint, almost ready for launching. The blacksmith shops, the machine shop, the wood shop, the upholsterer's shop, and the tracing and model rooms seemed like busy side-shows to the main yard, in which, to the inexperienced eyes, men seemed performing the most marvelous tricks with immense sheets of steel and iron, and making astonishingly dextrous movements with hammers and rivets.

Of course the first question put to me was, "When will the cobwebs of protection be swept from the minds of you Americans?"

"When the ingenuity of our people enables us to compete with the world without making the American laborer and artisan less of a man than he is," I responded.

I made very careful inquiry in regard to the wages paid, and the social condition of the workingmen of Dumbarton, and was told that some riveters earned £3 a week, and platers who had charge of gangs from £3 to £4 a week. The average earnings of a blacksmith were £2 5s., of a joiner, £1 15s., and of laborers from 15s. to 18s. a week. The latter, I found, were mostly Irish, and they lived in miserable dens—the single men in lodgings and the married whole families in one room. Their midday meal consisted chiefly of bread and tea.

I was well aware, as I shall demonstrate presently, that the "average earnings" were greatly exaggerated, and this shows the utter folly of trusting in off-hand statements of wages made by employers in England, which invariably are founded on maximum payments. In the face of these random assertions about wages, I have obtained the actual figures from the analysis of the fortnightly pay-roll of one of

the most celebrated of the Clyde ship-yards. I withhold the name for apparent reasons, but if any one doubts the accuracy of the exhibit I am prepared to substantiate the facts. It shows at once the ignorance of those raving demagogues who grotesquely announce that wages are as high in England as in the United States. The particular pay-roll taken was for the last two weeks of November, this year. The highest prices were being paid for labor, and, to use the language of a ship-builder, "English and Scottish workmen always work like demons the few weeks preceding holidays." Added to this, the yard was overflowing with work. Eighty "piece-workers" had all they could do, while "timers" were on full time and pay. The exact number on the pay-roll, including foremen and apprentices, was 1,614; the exact amount of the fortnight's pay-roll was £3,988. Of this number I found that 27 per cent, or a little over one-quarter, were "timers," and 73 per cent, or nearly three-quarters, were "piece-workers." For convenience' sake I will give the odd fourteen men about a pound apiece and call the number of men 1,600, and the amount of the fortnight's pay-roll £4,000. Here is the result:

$$4,000 \div 1,600 = 2\frac{1}{2}.$$

Average fortnightly earnings of each man, £2 10s., or \$12.50.

Average weekly earnings of each man, £1 5s., or \$6.25.

The amount of wages paid is not what a man can earn, nor what a few men do earn, but what whole classes of operatives or artisans are actually paid by their employers. It must be borne in mind that the pay-roll I have taken, from the season of the year and the pressure of business, is a very favorable one for the workman, as estimating (an outside estimate) that the men received twenty-five similar amounts during the year, which is hardly probable, we have for the average annual earnings of all employed in one of the great shipyards of Scotland (including foremen, platers and riveters, and other experienced men) £62 10s., or \$312.50. Only 10 per cent of the total amount of the £4,000 paid out

the books show, was for unskilled labor. How many persons received the 10 per cent, or £400?

Number of unskilled laborers, piece-workers.....	190
Number of unskilled laborers, timers.....	248
Total.....	438

Thus while the laboring man numerically represented considerably over twenty-five per cent of the total number on the pay-roll, he only receives ten per cent of the pay, or a trifle over 18s. per fortnight, or actually less than \$2.50 per week. If the unskilled laborers are deducted from the skilled, there remains about £3,600 to be distributed among 1,176, making the average weekly pay of the skilled workman about £1 10s. per week. On this sum a man can live in England decently, but on 10s. he simply drags out an existence of constant want and misery, and ends by becoming one of the million pauper population of the empire.

But how much does the ship-builder earn in the United States? Take the figures of the census, which, I believe, includes all kinds of ship-building, and does not give iron ship-building (by far the highest wages being paid in that branch) separately. For 1880, I find that \$12,800,000 was paid out in wages to 21,330 hands employed, or about \$600 per annum. Could we take a similar bird's-eye view of all classes of ship-building in Great Britain, and not merely of one of the most highly paid branches of it, the result would demonstrate beyond a doubt that the wages paid in this industry at home exceed those of Great Britain by over 100 per cent. It is very rarely that one can obtain such trustworthy data as those above given direct from the counting-room, and it certainly throws considerable light on one reason why England can build ships so cheaply, to say nothing about running them after they are built.

I asked one of the Mr. Dennys if most of the English ships were manned with British sailors. He smiled at my ignorance and said:

“Thirty-five per cent of our sailors are foreigners — East Indians. Why, they can be had for 30 shillings a month and a little rice; and then they don’t drink. Englishmen won’t work for less than £3 10s. and £4 a month, and they require better food.”

I told him Americans would want about \$2 a day for such work.

From what I have heard during my stay on the Clyde, I am inclined to think that ship-building and ship-owning are being overdone, just as railroading has been in the United States. Small capitalists have been induced to go into it, and I have before me four most enticing circulars, each urging the persons to whom they are addressed to buy shares in one of “the most economically built ships ever turned out of a ship-yard.” I showed some of these circulars to a first-class builder on the Clyde, and he said he could not conceive how the boats were built for the money, and that this sort of investment was hazardous in the extreme. Steamship-owning here has been very profitable. Managing owners, taking advantage of this and of the law that allows a vessel to be owned by a large number of owners of the sixty-four parts into which its ownership is legally divisible, have induced capitalists to buy single shares in amounts ranging from £250 to four times that sum. The managing owner, in all of the circulars I have seen, receives a considerable renumeration (often, in addition, a percentage of the gross profits) for the management of the vessel; the accounts furnished to his co-owners are of the most skeleton character, and it is the exception to find any reserve laid aside for purposes of renewals or heavy repairs. Under these circumstances, I am informed, new vessels yield necessarily large dividends; but those who know the depreciation in the earning power of steamers, the need for renewals in less than a dozen years, and the heaviness of insurance in such cases, look with anxiety to the future.

XIII.

THE JOLLY JAILERS OF DUNDEE.

IT is disheartening, after all these years, and after it has been celebrated in verse, to find out from modern philologists that "Bonnie Dundee" means neither a very beautiful nor very pleasant place. The epithet "bonnie," they now say, neither applies to beauty of aspect nor amenity of situation, but is simply the French adjective *bonne*, good, and, in concurrence with the extensive practice of olden times, was merely a complimentary expression applied to the town as representing the inhabitants. The town of Dundee itself was ushered into existence by an accident, and tradition has it that the Latin significance of the name is the "hill of God," so named by the brother of the Scottish King, who landed there after a dreadful storm on his return from the holy wars. This took place in 1174, and so pleased was the King at meeting his brother that he at once signalized the event by making Dundee a burgh. From time immemorial Perth and Dundee have been jealous of one another, but of late years Dundee has altogether outstripped her sister city of the Tay. In the sixteenth century the representatives of these two cities actually fought for the second place in a royal procession, and so delightful a circumstance as a street fight was not so rare in those good old times as to prevent the populace from hilariously joining therein. It is said that Dundee got worsted and that the citizens raged considerably at this loss of dignity. But before this the bitterest animosity had existed through a dispute as to the limits of their respective ports on the Tay, the inhabitants of Perth maintaining that their port included the whole river, and that no ship ought to break bulk until it reached the bridge of Perth. In this quarrel, which was carried on at times with bloodshed, Dundee triumphed. But while Perth and Dundee might have fought over which

city contributed proportionately the greatest number of criminals, there was no doubt that of the prison that held them Dundee was rightly proud, and Perth and all Scotland besides envious. Says Dr. Doran: "It was the boast of honest men and the despair of felons that it was the strongest prison in all Scotland. There was no getting out of it by 'breaking.' A toad might as easily break from the center of the stone in which it has been immured for centuries." The jailers had a jolly time. They locked up their prisoners at night and repaired to their lodging in town, returning in the morning in time to prepare breakfast for their involuntary guests.

It has been truly said that of all the gatherings in and about the town of Dundee none is of more powerful interest, more picturesque in detail, or more illustrative of the time and people, than those of which the heroic reformer, George Wishart, was the central figure. The East gate of the town, when the other gates were abolished, was allowed to remain in honor of the old missionary's last sermon during the plague of 1544. At the risk of his life, and against the entreaties of his friends, he had gone to the plague-stricken city, for, said he, "they are now in trouble and need comfort." He was met by an immense crowd, and, mounting the parapet of the wall, he addressed both the afflicted and unafflicted, the afflicted being outside, lodged in huts or booths, long called the Sick Men's Yards, and the healthy within the gate. It was a striking scene, the crowds of eager, upturned faces on either side of the old gateway, and the tall figure of the preacher swaying on the top. "By this sermon," says Knox, "he raised up the hearts of all that heard him that they regard not death, but judge them more happy that should depart than such as should remain behind." Not long after this Cardinal Beaton, lying on velvet cushions in the Palace of St. Andrew's, looked down with implacable hatred upon his enemy, chained to the stake, and heard him proclaim: "This grim fire I fear not," and as the noble Wishart spoke the powder exploded, the

fagots blazed up, and soon, amid the cries and groans of the spectators, the scorched and strangled body of the martyr was reduced to ashes.

Interesting as it is to linger on these memories of old towns, it is hardly within my province, and I must hasten on to the period when the cause of the Stuarts received its death-blow, and the distractions which the fierce partisans of the rival dynasties kept up gave way to peace and security, the sure precursors of manufactures and trade.

XIV.

TOWN LIFE IN OLDEN TIMES.

THE inhabitants of those days, who were warned to bed by the sound of the bagpipe and the toll of the curfew, and carried to their graves by the tinkling of a hand-bell, sleep in the old cemeteries of Dundee; and the busy, energetic population of to-day will soon be deprived even of reading the numerous curious epitaphs of their predecessors in the old burial-grounds, for time is fast obliterating them. Some would have already been lost had not Thomson, in his "Book of the Houff," made a note of them. At least, a statistician may be allowed to call attention to the large families of those times, as bearing on the statistics of population. Here is one:

Hier lyis ane honest man, Walter Gourlay, maltman and burgess of Dundee, who died i 28 day of April, 1628, of the aige of 46 yeires, with his twenty bairnis.

But the widow, it is presumed, did not long survive the husband, and using, as was the custom once in Scotland, her maiden name, she left these parting words for future generations to shed a tear over:

Epyte Pie. Here lie I. My twenty bairns. My Good Man. And I.

What a domestic history is condensed in this :

Here Grisell Scott lies in this little tomb,
With children six sprung from her fruitful womb ;
As many live ; was sixteen years a wife
To her dear husband, in a holy life.

There are many others, but I must leave them for the tombstone tourists, who will, no doubt, make them out better than I can. The citizens of those days would appear as quaint to us as the inscriptions on their tombstones. The head of the family breakfasted at the ale-house and in the evening enjoyed himself at the club over his "two-penny" and his tobacco. The shopkeeper locked his door at 1 p. m. and retired to feed. "His customers," says a writer of those times, "were forced to wait his belly-filling, and there was no resource." Some of these shops contained a motley assortment of train-oil and salt, candles and molasses, black soap and sugar, all crowded into less than a square of three or four yards. The single one-horse chaise supplied the demands and travels of all the inhabitants. The roads were bad, narrow, and unshapely. A journey to Edinburgh was a serious business for a thinking man. The streets of the town were dangerous for aged women and children. Horses neighed, kicked, and galloped at will. Wounded animals escaping from the butchers' hands rarely failed to stick their horns into the first unguarded inhabitant. The streets were in a wretched state. The pavements were worse ; and stairs jutted out in the common path. Not a lamp was to be seen ; not even the shadow of light. Fashion did not change then as now, and the grandmother's marriage brocade served the granddaughter for her wedding garment. Surgeons, undertakers, grave-diggers, and wig and bonnet makers did a flourishing trade. The town revenue was in a low state, as, after the unheard-of extravagance of a town-hall, twenty years of economy followed in Dundee before the last of its public rooms was finished inside. As I have already shown was the case in Glasgow, so in Dundee; Sunday was kept

holy and decent. Old women went to church with Bible under one arm and folding-stool under the other. None but a straggling blackguard or two, deemed to be past all grace and reformation, were seen idle or parading the streets. Ladies wore monstrous hoops, and footed it to church in gorgeous attire. Cock-fighting was publicly taught or encouraged at school. Dancing was taught, and a tall German, whose name was Noseman and who drank brandy, wore a silver-laced hat, silver buckles and cane, and walked upright as an oak, was the only teacher in town.

And this is no exaggerated picture of town life in "bonnie" Dundee before the dawn of trade in the eighteenth century. At this time the principal street of the town could not boast six houses completely built of stone. The shops did not rent at above £3 per annum, and many were closed altogether. In the midst of the depressed condition of affairs, Parliament inaugurated the protective theory with Dundee, by granting a bounty on brown linens made for exportation—a manufacture which, from weight of fabric and lowness of price, could not then be carried on without a loss. This again revived trade, and stimulated the industry of the inhabitants. Manufactures were established and prosecuted with a success that operated in a most beneficial manner on the domestic habits and comforts of the people. From the establishment of the British Linen Company, the object of which was to encourage native industry by advancing money to the poorer manufacturers, the linen trade of Dundee underwent a rapid development. Warden, in his history of the linen trade, says that a large bonus was paid the manufacturer who first started flax-spinning by power, and from this time the trade became completely changed. The spinster and the hand-wheel of the last century gave place to the factory girl and the spindle of the present; the manufacture ceased in the rural districts, and became concentrated in towns, where spinning-mills were erected. The manufacture of fine linens, lawns, cambrics, and "Glasgows," which formed the staple in Glasgow and the West of

Scotland down till the latter part of the eighteenth century, has now become almost an extinct industry there, and has taken a deep hold of the eastern manufacturing districts, and centres principally in Dundee for yarns and heavy goods and in Dunfermline for fine damasks. Ireland, of course, takes the lead of all the three kingdoms, and indeed of Europe at the present time, in the production of linen fabrics, as a glance at the following statistical exhibit will show :

COUNTRIES.	Number of Spindles.	Number of Power Looms.
Ireland.....	911,111	21,153
France	762,047	18,323
Austria-Hungary.....	342,508	500
Germany.....	318,467	8,000
England.....	190,808	4,081
Belgium.....	289,000	4,755
Scotland.....	265,263	16,756
Russia.....	144,734	2,500
Italy.....	50,149	524
Switzerland.....	9,000	.....
Holland.....	7,500	1,200
Sweden.....	3,810	98
Spain.....	.....	1,000
Total	3,294,597	78,790

XV.

DUNDEE—AMONG THE MILL HANDS.

IN the early days of mill-spinning in the East of Scotland, Mr. Warden says, it was with difficulty that a sufficient number of hands could be got for preparers, spinners, or reelers, and it was then the practice, in and around Dundee, for the owners of mills or their managers to attend the neighboring county fairs to engage hands, and sometimes open tent had to be kept all day as inducement to come to terms. Engagements were generally made for six or twelve months, as with farm and household servants at the present day. This was before the Factory Act, and mill operatives in towns had to labor fourteen and fifteen hours a day. The miserable pittances earned by the workers in this industry, then as now, perhaps explain why the flax industry migrated from the great iron districts of the West to the East of Scotland, and why it was the only industry which England permitted Ireland to embark in. In 1820 the report of a Committee on the State of the Laboring Poor quoted the wages then paid in Dundee—to weavers of sacking, 7s. 6d. per week; sail-cloth and bagging, 8s. 6d.; osnaburgs, 9s. 6d.; and sheetings, 10s.; in all cases, an average of a trifle over \$2 a week for the best workmen. Female labor was still more miserably paid; women in mills rarely made 5s., or \$1.20 a week; hand-spinners, when fully employed, 2s. 6d., but more generally 1s. 2d. per week. It was said that women had to spin for \$1 as much yarn as would reach from Dundee to Aberdeen—sixty-five miles. After a very careful inquiry and an examination of the books of several firms, the wages in this industry in Dundee may be said to have fluctuated in the last thirty years as follows (I have made the estimate in United States money):

SPINNING-MILLS.	1853.	1863.	1873.	1883.
	60 hrs.	60 hrs.	58 hrs.	56 hrs.
	Per week.	Per week.	Per week.	Per week.
Preparers.....	\$1 25	\$2 00	\$2 75	\$2 25
Spinners.....	1 35	2 15	2 70	2 50
Shifters.....	75	1 50	1 75	1 50
Boys.....	1 20	1 10	2 00	2 00
Reelers.....	1 75	2 50	3 00	3 00
Overseers.....	5 00	5 75	7 50	7 00
FACTORIES.				
Winders.....	1 75	2 00	2 75	3 50
Weavers.....	2 30	2 50	3 50	3 50
Tenters.....	4 50	5 75	6 00	6 50
Warpers	3 50	4 00	4 50	4 00

I was repeatedly assured by the factory hands whom I met in an hour's stroll through the Scouringburn, perhaps the most thickly populated, and certainly the worst, quarter of the modern town of Dundee, that the spinners on the average earned about 8s. and 9s. a week, and the weavers a trifle more. I think the wages in the flax industry are a trifle higher than in the manufacture of jute goods. A large number of the operatives are Irish, and they will not compare in social condition to those of Paisley. Unquestionably some of the mills, such as the Baxter Brothers', have accomplished something in the way of elevating the operatives, in the way of schools attached to the factory for the "half-timers," or children under fourteen, etc. But, upon the whole, the Dundee operatives are badly paid, and live, the best of them, from hand to mouth, and the worst in squalid misery.

The Scouringburn, the operatives' quarter of the city, contains hundreds of houses totally unfit for human habitation. They are low gray-stone buildings with but one room on a floor, and windows about two feet square. Some of them which I entered fairly reek with filth, and I actually

found in some whole families living like animals on the bare ground, with a couple of boards in the corner, upon which, covered with the vilest rags, the mother of the family lay dying, the man told me, literally of starvation. And yet this was within two rods of the police station. The room in which I witnessed this scene faced a public thoroughfare. It was lower than the street, and as the life of the poor starving creature on the floor was ebbing the slime from the drains oozed through the walls of the cellar and dropped in a thick pool in the corner. And yet in this same room were children, poor, pinched, half-naked, half-starved little creatures, who looked upon me in a terrified manner. I visited at least a dozen houses in this part of Dundee, and found the inmates in almost a similar state of misery and want. Some had been factory hands, and some were laboring men, who said it was impossible to get work even at 10s. and 12s. a week. They paid about 2s. a week rent for the dens they inhabited, and lived principally upon bread. The houses of the more thrifty operatives I found to be fairly comfortable, but not comparable with those in the neighborhood of Glasgow. The girls of the Scouring-burn patronize the public-houses with the men, and some of them are very rough. Some of the principal mills have greatly improved the tone of their employees by taking only respectable girls and promptly dismissing those who are found to be otherwise.

The jute industry of Dundee was comparatively unknown before 1830. About 1824 a few bales of jute reached Dundee. Toward the end of 1833 James Taws first began to spin pure jute, and in 1835 jute yarn was regularly sold in the market. In 1838 the total importation of jute into Dundee was 1,136 tons, and in 1881 it exceeded 100,000 tons. The whole of the jute used in Europe and India is now estimated at 2,000,000 bales. Of this quantity Great Britain takes about 1,100,000 bales, and nine-tenths of all that comes into Great Britain is consumed in and around Dundee. In 1875 there were 35,000 persons employed in this

industry in Scotland, but I am unable to obtain later statistics. It will be seen that within a limited time this industry sprang into the greatest importance, and enormous fortunes were made out of it; but a natural desire to share the good thing led to the business being overdone, and, according to United States Consul Winter, the wages paid by the Dundee jute mills are even less than those in the long-established flax industry. The following table shows the average amounts received by the Dundee operatives in jute manufacturing per week of fifty six hours in 1881:

Pickers of jute (men)....	\$4 15	Warpers (piece work, women).....	\$3 75
Strikers up (piece-work, women).....	2 88	Overseers.....	6 25
Hands at softeners (young men).....	3 15	Single loom weavers (piece work, women).....	2 50
Preparers (women).....	2 00	Double loom weavers (piece work, women)....	3 75
Boys (14 to 15 years of age), jute workers.....	1 94	Tenters (men).....	6 25
Overseers (men).....	6 25	Dressers (men).....	6 50
Coarse spinners of jute (women).....	2 62	Overseers	7 25
Fine spinners of jute (women).....	2 15	Croffers (men).....	4 50
Piercers (girls 14 to 15 years of age), jute workers....	1 60	Calenderers (men).....	5 00
Shifters (girls).....	1 37	Measurers (men).....	4 62
Half-timers (boys and girls 10 to 14 years of age)...	60	Laffers (men).....	5 00
Reelers (piece work, women).....	2 75	Packers (men).....	5 00
Bobbin - winders (piece work).....	3 62	Overseers (men).....	7 50
Gop-winders (piece work, women)	3 87	Mechanics, iron fitters and turners (men).....	6 50
		Millwrights (men).....	6 50
		Joiners	6 50
		Other tradesmen employed in these works	6 50
		Overseers.....	7 50

The flax industry has suffered severely of late years from foreign competition. The strike in the jute industry at Dundee, Scotland, brought to light the wages paid operatives here and in India:

	Dundee. (56 hours per week.)	Calcutta. (52 hours.)
Batching and preparing	\$2 52	\$0 69
Spinning	2 64	1 20
Warp-winding	1 62	65
Weft-winding (piece-work) ..	3 36	1 56
Beaming	3 60	1 20
Weaving	2 88	Piecew'k, ² 16
Calender-house	3 36	1 20
Laborers	4 40	96

The Dundee jute-worker finds himself competing in the world's markets with such wages as the above. Yet, free-traders in the United States reiterate at every banquet the insane cry that America ought to be making garments for the hundreds of millions of jute or flax or cotton clad peoples, competing at wages varying from 65 cents to \$2.16 per week. Why, even England herself stands appalled at this sort of competition.

Already foreign countries have cut into the export trade of manufacturers of flax of Scotland and Ireland, while free admission of these goods into British ports has caused an increase in the imports, which means of course an invasion of the home market itself. Below I present a table showing the exports from and imports into the United Kingdom in pounds of linen yarn, between 1869 and 1880:

	Exports	Imports.
1869.....	34,510,316	2,018,363
1870.....	37,239,314	3,081,597
1871.....	36,235,625	4,913,697
1872.....	31,187,051	3,723,260
1873.....	28,734,212	1,603,286
1874.....	27,154,906	1,875,640
1875.....	27,887,681	3,336,874
1876.....	22,238,259	3,404,305
1877.....	19,216,001	5,308,395
1878.....	18,473,800	5,969,434
1879.....	17,428,800	6,384,798
1880.....	16,437,200	5,958,731

The above table tells its own story. It is said that there are now 20,000 less persons engaged in the flax industry in Great Britain and Ireland than there were in 1861; and while some writers in England attribute the decline in this and other industries to the Factory Act, etc., there are a respectable minority who give the true cause, which is too much free trade.

Although flax, hemp, and jute are the staples of Dundee, it has a ship-building interest, engineering and iron works, and within fifteen years has gone into the manufacture of boots and shoes on a large scale. Its fishing interest is also important. Dundee is noted for its enterprise, and although its industrial history has been somewhat checkered, it may safely be said that it now has two staples—linen and jute. It once was celebrated for soap, glass, ale, and sugar-refining. Glass-making and sugar-refining have entirely died out. In 1866 linseed-oil crushing was begun with indifferent success. Dundee marmalade has become famous. Ship-building once flourished, but is not so important as formerly. The manufacture of cotton goods was also tried, but died away in favor of Glasgow. Attempts to establish woolen factories followed with the same result. But successive failures seem to have only stimulated these thrifty, hard-working Northerners, and after the bounty was offered by Government I have shown how they soon took the lead in linen and jute goods. Dundee has an abundant capital, and invests large amounts in the United States. It is about the size of Cleveland, though it can never become such an important city. There are some handsome residences and a few fine public buildings. In the summer forth from this ancient town spreads one of the richest and most varied landscapes in Scotland. At this time of the year, and approaching it on a rainy day along the muddy banks of the Tay, it looked bleak and unattractive. The streets are well paved, but the houses in the lower parts of the city belong to the old town, as described in the first part of this letter, and should give place to homes that

would elevate instead of debase the poorly paid operatives of the mills.

XVI.

COATBRIDGE—SQUALID MISERY.

THIS town is the center of the iron trade of Scotland, and of a region that annually produces about a million tons of pig-iron. Within a limited area there are more blast-furnaces and a greater output of iron than are to be found in any other region of similar extent in the world. Coatbridge is situated in the midst of a picturesque county and intersected by a branch of the North Calder water. Like nearly all towns that have sprung into existence on account of proximity of coal and iron mines, Coatbridge is a stragglingly built, badly paved, and, in the winter, a dreary-looking place. A majority of the houses in which the iron-workers reside look more like dirty gray-stone stables than human dwellings. They are one-room, one-story, one-door and one-window edifices, generally inhabited by a man and his wife and their family. Within these dwarfed dwellings are the essence of cheerlessness, not to say squalid misery. In the daytime, in all weathers, children amuse themselves amid the rubbish thrown out of the only door. Hilarious fowls crow and cackle around the doorway and within the passage way, roosting at night with the family. Here and there one finds in these habitations neatness exhibited in a clean muslin blind or a scrubbed floor, but the majority of the women seem to partake of the general slovenliness of their surroundings, and do nothing to make their homes comfortable or attractive. The population is half Irish and half Scotch, and on pay-nights the public-houses are filled to overflowing, and the principal diversion of the place—fighting—begins and lasts till midnight.

"All the surplus money," said Mr. Allen, manager of the American Iron Works of Coatbridge, "goes for whisky. They will go without bread to buy it."

On nearly every corner is a public-house, and at night the streets would indeed look gloomy were it not for the streams of light emanating from these gin-shops.

For all this, the religious and the temperance people are not idle, and Mr. Allen told me that during his residence at Coatbridge—not over ten or twelve years—no less than nine new churches have been built. Indeed, this city reminds me of another town which I visited the other day in which the rival attractions of religion and drink, or the competition between the churches and the "Pubs.," as they are vocally called here, had become so keen that the citizens had determined to ascertain which received the most patronage on the Sunday, the only day when the two came into direct competition. This town, it appears, abounded in earnest philanthropic effort. It has coffee palaces; agencies for lecturing, amusing, and otherwise elevating the British workman; schools for all tastes, ages, and beliefs, and temperance associations innumerable. Like Coatbridge, it also abounded in flourishing public-houses. The experiment referred to consisted of a census taken by the "Temperance Council" to ascertain how many persons attended divine service and how many were in the public-houses on the evening of Sunday, the 26th of last November. It resulted in showing that the former numbered 5,570 and the latter 5,591—a majority of 21 for the "Pubs." I am not informed what kind of a night it was, for experts say that climatic considerations count in these inquiries. Rainy weather (I don't know why) is supposed to fill the public-houses; while, oddly enough, fog is said to swell the attendance at churches. If this be true, both must have been well attended these last four weeks, for it has either been foggy or raining ever since I landed.

XVII.

AT THE THEATER ROYAL.

AMONG the other attractions of Coatbridge is its "Theater Royal." This is a large, dark-looking stone edifice fronting on one of the principal thoroughfares. The prices for admittance were as astonishingly low as the acting was ingeniously bad. The gallery, threepence: pit, sixpence; dress-circle, one shilling; and a private stall, two shillings. Thursday is the great night at the Theater Royal, Coatbridge—for that, an immense placard informs us, is "ladies' free night." Upon these free nights for ladies, the miner and laborer can take his "missis" and the mill-boy his "gal" and pass them in without charge. Of all the motley crowds I ever beheld that assembled at the Theater Royal, Coatbridge, on "ladies' free night," carries off the palm. The "dress circle" and the "private stalls" were vacant, but the loft and pit were filled. Every variety of clay pipe and every assortment of vile tobacco was in use. Men and women alike talked loudly and chaffed each other, embellishing their conversation with profanity which was hardly less revolting than the ribaldry from the stage. The audience was largely unwashed and attired in the clothes in which they left the mill or the blast-furnace. They were not, perhaps, such a vicious set as may be met in the Black Country or in South Wales, but they were grimy enough and uninteresting enough to inspire one with a desire to leave Coatbridge, with its smoke and mud, its stagnant pools, its played-out iron-mines, its thriving tube-works and blast-furnaces, its busy mills, and its reputation as the center of the Scottish iron trade, and seek for fresh air and a broader horizon in the green fields and meadows which, strangely enough, surround the city.

XVIII.

COATBRIDGE—"IN HOPES TO BE MAIR WISE."

IN the best mills the average weekly earnings of the laborer are from 18s. to 20s. If he is married he pays from £5 to £6 a year for such a house as those described above. If he is single he can obtain board and lodging for about 10s. a week. These lodgings are on what might be called the Box-and-Cox plan; that is, the "night hands" occupy the beds by day, and the "day hands" by night, beds by this process doing double service. Of course the laborer cannot get much meat, as the prices of provisions are the same as in Glasgow. The mill hands earn, some as high as 35s., but I found from the books of one of the largest firms in Coatbridge that the average weekly earnings of an engineer did not exceed 29s., or \$7. Boys and young men make from 8s. to 10s. a week.

The progress in the production of coal and iron in Scotland has been great during the present century, having in the latter case increased from 8,000 tons in 1800, to the present annual yield of 1,000,000 tons. As I have before remarked, the iron-producing materials are obtained over a comparatively small area, chiefly within and bordering on the valleys of the Clyde and Forth, and they are principally found in Lanarkshire (in which Coatbridge is located), Ayrshire being second in this respect. The other counties comprised within the coal and ironstone yielding area are Renfrewshire and Dumbartonshire in the vale of the Clyde, and Stirlingshire, Fife, Clackmannan, Kinross, East Lothian, Midlothian, and Linlithgowshire, or West Lothian, in the vale of the Forth, and all comprised in the imaginary rectangle which in an earlier letter I described as containing industrial Scotland. The blast-furnaces of Scotland are, with one exception, all situated within this area. Thus the

iron making and producing districts may be said to extend from the Frith of the Forth a little to the east of Edinburgh to the opposite point on the west coast and to some distance south of this line, occupying, in short, that great central valley, consisting, for the most part, of the Upper Palæozoic strata, and bounded by the northern highlands and southern uplands of the older Palæozoic or Primary formations. This mineral district affords employment to about 80,000 persons in raising coal, ironstone, and lime alone. It is about 80 miles in length, 40 miles in extreme breadth, and 1,500 yards deep. It is best developed in the vicinity of Coatbridge. According to the Royal Commissioners' report of 1871 (and I have no later statistics at hand), there were then contained over two thousand million tons of coal in Lanarkshire alone, and in the valley of the Clyde nine hundred million tons within 1,060 feet of the surface. The pits through which the minerals are raised vary from 30 to 180 fathoms in depth. The Government Inspector of Mines, Mr. Moore, makes the following annual estimate in respect to coal:

Rents paid to proprietors.....	\$2,000,000
Wages.....	10,000,000
Sales.....	15,000,000
Capital sunk in collieries.....	17,000,000

In 1875 the total minerals raised in the Scottish coal-fields amounted to 21,778,480 tons, consisting of coal, ironstone, limestone, and oil shale. It is this mineral wealth that has made the West of Scotland of such commercial importance. It is at the basis of the great iron ship-building interests of the Clyde, which I have already described; and the cheap fuel has also attracted other industries, such as the large textile factories and chemical works which cluster round Glasgow and play such an important part in the trade of Scotland.

The history of the manufacture of iron in Scotland when compared with that of the Forest of the Dean, in England, is comparatively modern, and may perhaps be dated from

1760, when the celebrated Carron Ironworks were erected. This was the first place in Scotland where malleable iron was made. One of the principles of this company, and, I must confess, my experience leads me to add, of nearly all manufacturing firms in Scotland, is to keep the outside world ignorant of much of those internal economies which have been productive of so much commercial success. It is the most difficult task to obtain even trustworthy statements of the number employed and the wages paid, and almost impossible to find out anything of the technical operations. It was the Carron Ironworks that refused to admit the poet Burns, and upon returning to the inn at Carron he immortalized the works by writing the following verses on the window of the room into which he was shown:

We cam na here to view your warks
In hopes to be mair wise;
But only, lest we gang to hell,
It may be nae surprise.

But when we tirled at your door,
Your porter dought na bear us;
So may, should we to hell's yetts come,
Your billy, Satan, sair us.

Both Scotch and English manufacturers dislike to have the amount of their business known, and, except in a few of the principal industries, where the associations themselves obtain the information, there are really no industrial statistics of Great Britain. Mr. Robert Giffen, of the statistical department of the Board of Trade, has, either from lack of funds or from the lack of desire on the part of manufacturers to have these facts known, failed to present in his *Miscellaneous Statistics* volume any industrial statistics, and Dr. Bevan, in his admirable "*Statistical Atlas of Great Britain*," presents an astonishingly meagre exhibit of the industries of Great Britain. On the contrary, at home manufacturers are always ready, whether wisely or not I do not

care to discuss, to open their books and unlock the doors of their mills and factories to strangers; and less distinguished people than the Ayrshire poet, if not in search of wisdom, could gain a fair idea of the future abode for the wicked by a visit at night to almost any great American iron and steel works.

XIX.

DEWSBURY—BEER-SHOPS AND GIN-SHOPS.

GEOGRAPHICALLY speaking, this is the center of the woolen district of England. Dewsbury, centuries before it embarked in the shoddy business, was a place of importance in the infancy of the Christian religion. It was the largest parish in England, and had an area of 400 miles, including Huddersfield, Halifax, Bradford, and many towns of less importance. It is even claimed that Paulinus, the first Archbishop of York, preached at Dewsbury some time in the seventh century, and as proof of this the ingenious inhabitants point to a cross on the church of the now subdivided parish, and say it is after the model of one erected at an earlier date in commemoration of the event. This is the ancient history of Dewsbury. Its modern history, combined with that of the adjoining town of Batley, is the history of shoddy manufacture. In these towns are made shoddy blankets, shoddy beaver-faced goods, shoddy "presidents," shoddy army cloths, shoddy plushings, shoddy druggets, and lately, I am told, shoddy sealskins. The shoddy trade, in fact, has taken about as deep root in Dewsbury as the story of Paulinus preaching there has in the minds of its people. Under the benign influence of its sister town, Batley (thirty years ago but a small market-village) went into the business, and to-day has 30,000 population and over fifty mills and factories. United, these towns defy all

Christendom in "heavy" and cheap cloths. What they contemptuously term "that iniquitous pound clause" in the United States tariff has "throttled our trade with the States;" but in spite of "hostile tariffs" Dewsbury and Batley send their goods to all the Continental countries.

A visit to Dewsbury on a bleak, wet winter day was not calculated to raise one's spirits. The station was dark and



badly managed. The man at the ticket-window (called here "booking-clerk") was flirting with his sweetheart; the station-master was having a little "family settlement" with a shrill-voiced, hard-featured woman, undoubtedly his wife; an ancient beldame with a sharp, saucy tongue sat crouching over the fire of the only waiting-room, and now and then broke out into a wild invective against a few antiquated old Yorkshire men who, with short black clay pipes,

mixed with the fetid atmosphere of the room the vilest tobacco-smoke. A red-nosed, shabbily-dressed, skulking-looking Irishman offered to escort me to the "Royal" and carry my luggage. Accepting the proffered service, I began the exploration of ancient Dewsbury. The hotels are such only in name. The "Royal," the "Scarboro," the "Wellington," on a visit faded into second-class public-houses. Not a respectable hotel is in the town, and yet it has 30,000 inhabitants. The streets were narrow and crooked; beer-shops and gin-shops on every corner, no less than 150 being required to quench the diurnal thirst of the inhabitants of the town—one to every 200 souls, including babies. The windows of the clothing shops displayed only corduroy and duck suits and blue check shirts. Dewsbury booksellers retail books very much as the costermonger of the Seven Dials sells vegetables Saturday night, by the aid of flaring lights, the books being piled on empty packing-boxes. In and around the public-houses loiter the men without a job, and at the entrances of the numerous little courts, alleys, and passages insufficiently clad women shivered and gossiped. The factories are large gray-stone buildings walled in like prisons, with vigilant porters stationed at all the entrances lest strangers should accidentally get into the factories and appropriate the new designs or otherwise find out something of their internal economy. The manufacturers seem about as hard and sharp as the machines which weave their mungo and shoddy into cloth. The hands are ground down to the lowest penny, and a recent strike among the operatives brought out the fact that the average earnings of all hands, including the high-priced overseers and foremen, was only 16 shillings, or \$4, a week at Dewsbury and Batley. The rent of one or two rooms, in the poorest locality of the town, is £7 a year. These immense factories straggle along on the outskirts of Dewsbury for many miles, and without exaggeration might be said to extend in all directions for a distance of twenty-two and one-half miles, with Dewsbury for a center.

XX.

THE WORLD'S WOOLEN REGION.

I HAVE made the above pen-and-ink sketch of the Yorkshire cloth and woolen districts on a scale that will come within a single column of the *Tribune*, so that the reader can see at one glance that a circle of less than forty-five miles in diameter contains the great woolen and worsted regions of England, I might say of the world; and that the town I am writing from (Dewsbury) is geographically the hub.

Municipal Boroughs.	Population.	Municipal Boroughs.	Population.
Leeds.....	309,126	Wakefield.....	30,573
Sheffield.....	284,410	Barnsley.....	29,789
Bradford.....	183,032	Dewsbury.....	29,617
Huddersfield.....	81,825	Batley.....	27,514
Halifax.....	73,633	Doncaster.....	21,130
Rotherham.....	34,732	Pontefract.....	8,798

Urban Sanitary Districts.	Population.	Urban Sanitary Districts.	Population.
Keighley.....	25,245	Selby.....	6,033
Todmorden.....	23,861	Honley.....	5,070
Castleford.....	10,553	Skipton.....	4,733
Heckmondwike.....	9,826	Ilkley.....	4,700
Bingley.....	9,542	Tadcaster.....	4,300
Harrogate.....	9,482	Guisley.....	3,706
Brighouse.....	7,964	Penistone.....	2,254
Otley	6,803		

Parliamentary Borough.

Knaresboro.....	5,000
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Estimating the present city and town population of England at 15,000,000, it will be seen that the above places contain more than one-fifteenth of the entire urban population; but if to this should be added the population of the other small

towns and villages and the rural population, the above area would contain nearly all of the 1,830,000 inhabitants of the West Riding of Yorkshire. It is, to-day, one of the busiest manufacturing spots on the globe, mills and factories having sprung up in every direction. The clear streams that formerly meandered through the green valleys are now as black as ink, and the never-ceasing smoke from the tall chimneys has tinged the verdure and the foliage with gloom. In early times this region was considered wild, and I believe was put down in *Domesday-Book* as waste. It was originally given to the De Laceys and Earl Warren by William the Conqueror, when he parceled out England to those who "came over" with him. Warren, who had married the old King's daughter, came in for a good share of the spoils, and managed to retain it in his family for nearly three centuries. Those old Warrens were a queer set. One of them, John, built Sandal Castle, which more properly might have been termed Scandal Castle, for it seems he built it to hold secure from her husband a neighboring earl's wife, whom "he contracted a passion for." The De Laceys were made happy with Pontefract and a hundred and a half of manors, including Bradford, and it is said that he was so grateful that his son founded Kirkstall Abbey to prove it, and, if my memory serves me right, there was a famous narrow passage in a vault under this abbey by which women's virtue was tried; those women who had kept their honor easily passing through it, while those whose characters were suspicious, by some peculiar miracle, stuck fast. It was an easy matter in those days to make dukes and earls, and as soon as the kings got fairly started at the business they were "girding on a sword, putting on a cap and circle of gold on your head, and delivering of a golden rod," with an injunction that "you shall have, as free as any other earl, the third penny of the district;" and the deed was done. The De Laceys were not so fortunate as the Warrens, for they were dispossessed of their barony for fighting against Henry I., and it afterward fell to old John of Gaunt. But I don't suppose the

present dwellers in these busy, smoky towns care or know much about the old fellows whose distant "footsteps echo through the corridors of time," and who, at the best, were little better than their fiery leader who marched with his army in the winter through the wild hills and the then pathless district, represented in the map above, which is now rich with modes of industry then undreamed of. That terrible Christmas he organized a plan of vengeance which involved the destruction of every living man, and every article that could minister to the sustenance of life. The country was left a waste, and the condition of the people of the West Riding was described in Edward II.'s reign as miserable and wretched in the extreme. Pestilence and famine aggravated the miseries of feudal oppression and the calamities of war.

In the time of the Stuarts the bustling manufacturers of this region were always to be found on the side of the Parliament and the people; for by that time they had learned the value of industries, and the lesson that war with its attendant uncertainty meant, in those days, ruin and devastation where property had accumulated and industry had dawned.

It is supposed that Henry VII. set on foot the manufacture of coarse woolen goods in Yorkshire, and that Wakefield, Leeds, and Halifax were among the first towns to start the industry. After the ruin of the trade in the Spanish Netherlands was established the fine woolen manufacture of Wiltshire. One of the earliest woolen manufacturers who seem to have figured in history was famous Jack Winchcomb. In the reign of Henry VIII. Jack is described as being "one of the greatest clothiers that ever was in England, he keeping 100 looms in his house, and in the expedition to Floddenfield against the Scots marched 100 of his own men, all armed and clothed at his own expense." In 1568 the Flemish refugees settled in various parts of the kingdom, and from that time may be dated the beginning of the woolen industry of Great Britain. In the reign of

William and Mary the woolen manufacturers in England turned their artillery against that business in Ireland, and all the towns of Yorkshire petitioned Parliament to suppress all exportation of woolens from Ireland, and to utterly discourage the prosecution of its manufacture there, "lest," said this generous petition, "in time they should be able to work up all their own wool, and England be deprived of its usual supply from thence; that this was but an act of self-preservation in England, the mother country, which therefore as such had a right to dictate not only in *that* particular, but in some others, and, moreover, to *command* a monopoly of their raw wool." It resulted in the prohibition under severe penalty of the exportation of wool or woolen goods from Ireland, except by way of England, and in the crushing-out of the industry in Ireland. After this it was supposed that the importation of China and Persian silks, and Indian painted, printed, or stained calicoes, injured the woolen manufacture of England, so it was coolly prohibited. This, of course, stimulated the business of printing, painting, staining, and dyeing calicoes in England. Whereupon the silk manufacturers and the woolen manufacturers "brought pressure" on Parliament to abate the "great and grievous fashion which abated the use of silk and woolen goods." One man actually had the courage to condemn the course of the silk and woolen men and justify the use of calico as interfering, he said, with neither silks, which were a dearer article, nor worsteds, which were a cheaper. His argument was denounced by the statesmen of the times as "extremely confident and foolish," and an act was passed to "preserve and encourage the woolen and silk manufacture of the kingdom, and for the effectual employment of the poor by prohibiting the using and wearing (after December 25, 1722) of all printed, painted, stained, or dyed calicoes, except those dyed all blue; also all stuffs made or mixed with cotton, except muslins, neckcloths, and fustians." After the passage of this act the silk and woolen interests undoubtedly felt safe.

XXI.

THE BARBER OF PRESTON.

A BARBER of Preston, who had invented a hair-dye and was peddling it through the country and dyeing people's wigs, who was at the best rough-mannered and coarse, and whose friends upon one occasion, in a heated election contest, had to buy him a suit of clothes in order to get him out to vote, was soon to revolutionize the woolen trade of the world and to found the great cities the names of which are now known all over the civilized portion of the earth; and yet, as I have already shown, all this was to be accomplished within a radius of twenty-two and a half miles and in a district which was tossed over by a victorious king to a couple of his savage adherents. The inventions of Arkwright, the barber, and of Hargreaves, gave the impetus to this trade which even in their time had reached in England to the following relative importance:

	Value of Products.		Value of Products.
Woolens.....	£16,800,000	Silk.....	£3,350,000
Leather.....	10,500,000	Cotton.....	960,000
Flax.....	1,750,000	Lead.....	1,650,000
Hemp.....	890,000	Tin.....	1,000,000
Glass.....	630,000	Iron.....	8,700,000
Paper.....	780,000	Steel.....	3,400,000
Porcelain.....	1,000,000	Small manufactures..	5,250,000
		Total	£56,660,000

The eye and hand no longer helped
 To guide and stretch the gently loosening thread,
 but
 Spools, cards, wheels and looms, with motion quick,
 And the ever murmuring sound
 of the factory, with its thousands of operatives, ushered
 into existence the new order of things.

It is of that new order of things which the subsequent letters from the great cities of the woolen region will deal with more in detail. In this letter I merely attempt a glance at the region as a whole, and to facilitate that, and at the same time to map out my route of travel, the above map of the woolen region is presented. It is a curious fact that within the region given only three of the towns carry on the manufacture of cotton—Skipton, Keighley, and Otley—and yet a brisk walk would take us into the great cotton districts of the world. Equally surprising is the fact (and this surprised several Yorkshire woolen manufacturers when I told them) that not a woolen or worsted mill or factory exists in Yorkshire outside of the district indicated on the *Tribune's* map. There are more furnaces at Leeds, Bradford, Normantown; linen manufactures at Barnsley; some silk manufactures at Leeds, Otley, and Halifax; shoddy manufactures at Dewsbury and Batley, also carpet manufactures; while woolen and worsted manufacturing is carried on extensively at Leeds, Bradford, Huddersfield, Halifax, Saltaire, Otley, Bingley, Keighley, Cleckheaton, Wakefield, Morfield, Holmfirth, Knaresboro, and several other smaller places. Wakefield and Doncaster are the farming centers of the district. In old Camden's time licorice was grown at Knaresboro; now it has migrated south and is an extensive industry at Pontefract. Of the entire area I have described about 13 per cent is cultivated in grain and 44 per cent is permanent pasture, Doncaster and Wakefield being the markets. In the last few years stock-raising has decreased. Bradford, Leeds, Pontefract, Danbury, Wakefield, Huddersfield, Doncaster, Barnsley, Rotherham, and Sheffield are all on coal-beds, there being in the entire district 523 coal-mines. The death rate of the woolen region is not so high as in the cotton districts, though, strangely enough, it is so near: Leeds, 22.6 in 1,000; Bradford, 21.2; Huddersfield, 23; Halifax, 21.4; and Sheffield, 21.3; as against Manchester, 27; Salford, 25; Liverpool, 27; and Wigan, 25. For educational purposes most of these places

have endowed grammar schools; there are nearly 200 board-schools (besides a share in nearly 1,500 Church of England schools), 124 Roman Catholic schools, and 94 Wesleyan schools. There is a Technical College at Leeds, and Schools of Art at Keighley, Shifley, Halifax, London, Rotherham, Sheffield, and Selby.

The statistics of the British census of 1881 show that there are now 233,256 operatives engaged in the wool and worsted industry. In 1871 there were 253,490. The decrease since 1871 is 20,234. In the United States we had 120,000 so employed in 1870, and in 1880, 162,000, an increase of 42,000. Here are the wages paid in a woolen-mill in Aberdeen, Scotland, and in a mill in every respect similar in New York. The figures are taken from the books of the two concerns.

	New York.	Scotland.
Wool-sorters—overseer.....	\$18 00	\$7 50
Men.....	12 00	5 50
Dyers—men.....	7 00	3 70
Carding—overseer.....	20 00	16 50
Card-tenders—girls.....	4 00	2 00
Spinning—overseer.....	18 00	7 00
Men.....	12 00	...
Boys	4 00	1 50
Warping—overseer.....	18 00	7 50
Dresser tenders—men.....	10 50	Women, 4 50
Children.....	3 50 to 4 00	1 50
Weaving—overseer.....	30 00	16 50
Section hands.....	13 50	7 50
Weavers.....	10 00	3 75

Here are some additional wages tables:

[In this and following tables M stands for men, W for women, Y P for young people.]

WOOLEN GOODS.

UNITED STATES.	ENGLAND.
Weekly Wages.	Weekly Wages.
Overseers (carding)..... \$20 25	Overseers (carding)..... \$8 00
" (finishing)..... 13 50	" (finishing)..... 7 00

WASHING AND CARDING.

Carders, M.....	\$8 25	Carders, M.....	\$6 40
" W.....	4 40	" W.....	2 60
Washers, M.....	8 10	Washers, M.....	5 40

DRAWING AND SPINNING.

Drawers-in, W.....	\$6 60	Drawers-in, W.....	\$2 75
Spinners, M.....	8 00	Spinners, M.....	6 00
" W.....	6 00	" W.....	2 60

WEAVING.

Weavers, M.....	\$7 50	Weavers, M.....	\$5 25
" W.....	7 25	" W.....	4 10

FINISHING.

Finishers, M.....	\$7 50	Finishers, M.....	\$5 50
" Y P.....	5 85	" Y P.....	2 45
Loom-fixers.....	11 10	Loom-fixers.....	5 85
Finishing overseers.....	35 00	Finishing overseers.....	15 00
Shearers.....	4 50	Shearers.....	3 75
Pressmen.....	8 00	Pressmen.....	3 75
Giggers and fullers.....	7 50	Giggers and fullers.....	3 75

WORSTED GOODS.

Overseers (combing).....	\$33 00	Overseers (combing).....	\$6 55
" (drawing).....	32 75	" (drawing).....	7 80
" (spinning).....	36 00	" (spinning).....	7 00

WOOL SORTING.

Sorters, M.....	\$10 75	Sorters, W.....	\$6 65
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WASHING, CARDING, AND COMBING.

Backwasher.....	\$7 10	Backwasher	\$4 50
Carders, M.....	6 50	Carders, M	6 50
" W.....	4 75	" W.....	3 10
Combers, M.....	7 50	Combers, M.....	6 75
" W.....	5 50	" W.....	3 00
Gill boxes, W.....	5 80	Gill boxes, W.....	3 80
Preparers, W.....	5 40	Preparers, W.....	2 50
Washers, M.....	7 10	Washers, M.....	5 75

DRAWING AND SPINNING.

Doffers, Y P.....	\$3 60	Doffers, Y P.....	\$2 00
Drawers, M.....	8 30	Drawers, M.....	6 50
" W.....	5 85	" W.....	2 65
Spinners, M.....	6 00	Spinners, M.....	4 00
" W.....	5 10	" W.....	3 10

SPOOLING.

Warpers, W.....	\$5 70	Warpers, W.....	\$3 15
Winders, W.....	5 25	Winders, W.....	2 40

WEAVING.

Weaver (1 loom), M.....	\$7 95	Weaver (1 loom), M.....	\$4 90
" (1 "), W.....	7 10	" (1 "), W.....	3 70
Weavers (2 looms), W....	7 60	Weavers (2 looms), W....	3 90

FINISHING.

Finishers, M.....	\$6 60	Finishers, M.....	\$5 40
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CLOTH ROOM.

Packers, M.....	\$7 00	Packers, M.....	\$4 80
" Y P.....	5 40	" Y P.....	3 40

MECHANICS.

Blacksmiths, M	\$11 50	Blacksmiths, M	\$7 80
Machinists.....	12 80	Machinists.....	6 60
Masons.....	15 00	Masons.....	6 90

ENGINEERS, ETC.

Engineers.....	\$18 00	Engineers	\$7 00
Firemen.....	8 80	Firemen.....	6 00
Watchman.....	8 75	Watchman.....	5 35

GENERAL HANDS.

Teamsters	\$9 00	Teamsters.....	\$5 25
Laborers.....	8 00	Laborers.....	4 90

But the industry and energy of this remarkable district do not banish from it crime, and the poor, the Great Master has said, "ye always have with you." It takes an army of 2,000 policemen, whose tramp may be heard on the streets, and down the alleys and courts of the cities of the cloth district, to remind society that it must not beat its wife, vivisect its children, and jump on its mother. And as the tramp is heard, society gives its family a momentary respite, but also, judging from the police returns from these cities, it goes back to its favorite pastime as the tread of the law grows fainter and fainter. But what palatial mansions do we find in the cloth districts for the poor? Fifty thousand of them last year received relief. Will Americans credit the fact that in the narrow limits of less than an area of 600 square miles the following workhouse accommodation is thought necessary?

Place.	Capacity of Workhouse.	Place.	Capacity of Workhouse.
Bradford.....	778	Wakefield	369
Dewsbury.....	399	Wetherby.....	80
Doncaster.....	300	Saddleworth.....	200
Halifax.....	465	Barnsley.....	293
Huddersfield.....	450	Otley.....	100
Keighley	264	Bramley.....	214
Knaresboro.....	150	N. Bierley.....	326
Leeds, 2 {	984	Honley.....	208
	499	Pennistone.....	113
Pontefract.....	200	Ecclesfield.....	262
Rotherham.....	295	Eccleshall.....	490
Selby.....	189	Hewesworthy.....	95
Sheffield.....	750	Holbeck.....	119
Skipton.....	200		

And these are the "unions" of the woolen region, with accommodations amply sufficient for the poor worn-out mechanics, working for a pittance out of which nothing can be saved, with no future, only at the close of life to exchange the quick rattle of the shuttle and the spindle for the dull thud of the English poor-law.

XXII.

BRADFORD—ANCIENT AND MODERN.

BRADFORD is situated in the part of Yorkshire that fell at the time of the Conquest to the De Laceys, who were “Normans of gentle birth” and “attendants on the king.” Indeed, as I remarked in my last letter, the De Laceys and the Warrens seem to have come in for most of the West Riding of Yorkshire. One would suppose that a hundred or so manors, and a score or two towns each, would have made these fiery barons indifferent to an odd pasture; but, unhappily, such was not the case, as we read of one of the young De Laceys—Henry, I think—going into training, before he was of age, to fight the Earl of Warren, who, not contented with allowing his cows to browse in the De Lacey meadows, had actually appropriated one of that Earl’s pastures. Bradford, after undergoing for several centuries the vicissitudes of the De Laceys’ fortunes, seems to have come through marriage to “Old John of Gaunt, time-honored Lancaster,” and on his death Richard II. did the town the honor of capturing it, and with Bradford the remainder of John’s immense estate; but the same year he was dethroned, and Henry Bolingbroke succeeded both to the throne and the estate, and Bradford seems to have become the property of the crown. In early times Bradfordians had a queer way of combining business and piety, and so they made Sunday market-day. It is said they did a little piety in church and a good deal of business at the market-standings. Though not so exact in their observances of Sunday as the Glasgovians, Bradford people would never encourage laziness nor tolerate drunkenness, and as early as the seventeenth century they suppressed the greater part of the ale-houses and set the loafers to work. With these fundamental ideas of industry it is hardly surprising that the Bradford people

were too busy to brook delay in settling the differences between the people and the Stuarts. The town had become embroiled in the war, and the people furiously repulsed the Royalists and drove them back to Leeds. Writing from Bradford to his father, Sir Thomas Fairfax said: "These parts grow very impatient of our delay to beat them (the Royalists) out of Leeds and Wakefield, for by them all trade and provisions are stopped, so that the people in these clothing towns are not able to subsist." Their impatience arose from the breaking-up of their trade and the closing of their markets.

The assault of the Royalists, however, left a lasting mark on Bradford and finished it for some time for trade and manufacture, and it was not until nearly a century later that the town began to recover itself. At the close of the eighteenth century prosperity seems to have come to Bradford all at once, and from a place of a little over 13,000 in 1801, it now has a population of about 185,000. In 1773 Piece Hall was erected, and before the nineteenth century had begun the first worsted mill was built and the foundation of its present trade laid. At this time the district was crowded with hand-loom weavers and spinners, and the worsted manufacture began to assume considerable importance. Calimancoes, shalloons, and a few taminies were then the chief products of the Bradford looms. Dr. Doran very properly dates the later importance of Bradford from 1831, when the Reform Bill helped to raise it to the dignity, of a Parliamentary borough with the privilege of returning two members. The local newspapers of that time show most amusingly their sense not only of increased dignity, but of increased responsibilities. "There is an undisguised consciousness," says Dr. Doran, "that the eyes of Europe (not to say of the world generally) are fixed upon the new borough, a municipal borough, with a worshipful mayor and corporation." Who, I might add, for so Mr. Grinnell, the United States Consul, has to-day informed me, have since administered local government with the success that

has certainly not been attained in any city of the size in our own country, if it has been in England.

The local papers of the days of municipal reform in England give an incident worth recalling, as showing what constituted a Radical in the early days of Bradford's municipal existence. Hardy and Lister were the Radical candidates. Hardy made the declaration at the nomination. He was for vote by ballot. That was all. He was against triennial Parliaments and household suffrage. Banks, the Conservative, announced as his platform "the limitation of the hours of labor for women and children." The Radicals were elected. They sent their sons to be chaired in place of themselves, and the roughs tossed the lads out of the cars and smashed the chariots of triumph. Commenting on this incident, the authority already quoted remarks: "The Bradford 'man-folk' were always vigorous in arms as well as speech—sometimes cruel." In the old days of riot they burned mills and broke up machines with a fury of delight. It was their method of argument—a "discussion wid sticks," as our Hibernian friends at home would call it. The ignorantly blind Marchioness of Hertford prevented a railway being built between Bradford and Leeds because it would encroach upon some land of hers which lay between. Rails, mills, and machinery all now exist in spite of these ignorant individuals. Bradford generally got the worst of her strikes. That of the wool-combers and stuff-weavers in 1825 lasted nearly six months, and was finally wound up by the departure of the treasurer with the funds.

Bradford lies at the bottom of an irregular basin of hills, every outlet of the town, except the narrow valley which follows the course of the beck and runs out into Airedale, being more or less of an ascent. The streams that descend into it and converge in the Bradford beck, and the extensive beds of coal in the immediate vicinity, are exceptional advantages for the manufacturer. Mills and workshops are here crowded together and extend for miles around, and the whole community is busy and active. There are some

uncommonly fine buildings in the town, and I think the City Hall is far handsomer than that of Leeds. There are at the present time over 200 worsted mills in the town, but I shall reserve for my next letter a detailed account of my visits to these mills, together with a description of the condition of the operatives. I can now only deal, in a general way, with Bradford, its history, the peculiarity of its people and the present condition of its trade.

XXIII.

THE DIALECT OF THE WORSTED REGION.

THE Bradford dialect is very peculiar, and, Mr. Cunningham, who has given Yorkshire dialects considerable careful study, claims, "indigenous to the town itself." When Dr. Doran visited Bradford with the British Association, he remarked in his customary happy way: "The vowels at Bradford are altogether of a very loose way of life." For example, *a* is short in "shape," which becomes *shap*; it takes a mincing sound of *e* in "wash;" and in "dance" it becomes a very round *o* indeed. While *a* becomes *e* in "wash," *e* becomes *a* in "very," and it doubles itself, becomes *ee* in "wet," and not only doubles itself, but claps an *a* on to the doubling in "fret," which is pronounced *free-at*. *I* is short and long, where in other places it is long and short; "pink" is *peenk*, and "blind" rhymes to "pinn'd." The remainder of the vowel family is equally perverse, and utterly never to be depended upon. The diphthongs imitate them in audacious lawlessness, and popular Bradford conversation startles the ear with such phrases as "Shoo coom dahn stairs i' hur bare fit a wick ago, an's bin poorly ivver sin'." Some words I never heard used elsewhere: for example, "frame"—a Bradfordian "frames" to his business, "frames" to his amusements, and "frames" to his everything. The Brad-

ford girls can "hug" anything, but not anybody—for "hug" means to "carry." The word "anent" is here still used for opposite, and to come "through" New York means that I came from there. After struggling with it the visitor is apt to say (if he can) with Mr. Cunningham, "I feear its noan so easy to leearn." One glance at a native book and I have done. In "Poems and Songs," by a Yorkshire "Lik'nass Takker," the minstrel thus sings of the Apollo Belvidere:

All reyt and strayt i' mak and shap,
 A mould for t' raace o' men;
 A dahnreyt, upreyht, bang oop chap,
 Not mitch unlike my sen!

XXIV.

BRADFORD—DECLINE OF THE WORSTED TRADE.

THERE has been a great deal written about the recent decline of trade in Bradford, but judging from what I have heard from representative men during my stay in the city, the information that has from time to time reached the United States about "Poor Bradford" has not attributed the decline to the right cause. It is an alarming fact for any nation to be met with the startling figures that in one branch of industry, that of worsted yarns and stuffs, the exportations from the country have declined from \$135,000,000 in 1872 to \$81,000,000 for the year just closed. Not only has Bradford lost a great part of the foreign, but it has failed to retain its hold of the home trade. Innumerable causes have been given for this decline. Short hours, hostile foreign tariffs, want of taste and skill on the manufacturers' part, lack of enterprise on the merchants' part, an insufficient distributive system, lack of character in the dyeing; and lastly, Parliament has become alarmed at the general con-

dition of manufactures throughout the empire, and a commission has been appointed to look into the question of Technical Education, and that is brought forward by some as a sure panacea for the evil.

To understand the trade of Bradford it is necessary to have a general idea of the divisions of what, generically speaking, may be called the woolen trade. [Leeds, it should be remembered, manufactures every variety of woolen cloth produced in England, and, while Bradford makes some cloth, its specialty has always been what is called the worsted trade, including worsted yarns, worsted stuffs for ladies' dresses, such as Orleans and Coburgs, also alpaca or mohair goods and all sorts of mixed stuffs. The Huddersfield trade is similar to that of Leeds, while Halifax is given over more to carpets, window-curtains, damasks, and, in short, to what may be termed a subdivision of the Bradford trade. It will be seen at once that the all-wool trade, embracing mostly men's cloth goods, would be subject to less fluctuation through fashion than that of dress goods for women's wear, and hence that the Leeds and Huddersfield trade would be more staple than that of Bradford and Halifax. Dewsbury and Batley are largely given over to the shoddy and mungo trade, and, though an important part of the woolen region, may be dismissed in the consideration of the Bradford branch of this industry. It is a fact worth recording that while the exportation of worsted goods from the kingdom has declined \$54,000,000 in the last decade, in articles for men's wear (or woolen manufactures) the manufacturers have not only held their own at home, but have increased the foreign trade of Great Britain in woolen cloths from \$35,000,000 in 1872 to \$48,000,000 in 1881—an increase of \$13,000,000. Mr. Thomas Illingworth, of Bradford, thinks that this fact does not show a lack of skill or taste, and thinks that the decline in the worsted trade may be traced to the fact that Bradford founded its prestige on the successful combination of cotton warps with yarns spun from English and other long-stapled wools. At that time, wools

of the merino kind were scarce, and the supply came chiefly from Spain and Germany. The Australian colonies had not then startled the world by their wonderful development of the sheep industry, which practically changed the woolen trade, and the sheep industry in our own country was but in its infancy, and had not grown to its present magnitude. It was at this time, when all-wool goods made from the soft merino wools were very dear, that Bradford, instead of slowly drifting with the trade in all-wool goods, and changing from English to foreign wools, chose rather to cast its fortune with an entirely new industry, and for a time, it must be confessed, the manufacturers reaped a rich harvest. Bradford changed from worsted to cotton warps. The dearness and scarcity of all-wool fabrics gave a great stimulus to the Bradford trade. Giant mills were built and millions of capital were invested. Under this stimulus Sir Titus Salt erected what may be well termed a palace of industry, and founded a town, not less remarkable than Pullman, now called Saltaire. The immense factory was opened amid the merry peals of the Shipley church bells, and the discharge of ordnance in front of the works welcomed the guests to a grand banquet. Earls and lords made speeches, and the new era of alpacas and mohairs was ushered in with such songs as :

From Peru he has brought the Alpaca,
From Asia's plains the Mohair ;
With skill has wrought both into beauty,
Prized much by the wealthy and fair.
He has Velvets, and Camlets, and Lustres ;
With them there is none can compare ;
Then off, off, with your hats and your bonnets,
And hurrah for the Lord of Saltaire.

Even Charles Dickens celebrated Sir Titus by making him the subject of a sketch in "Household Words." But after a generation of great success the Bradford people no longer hurrah for the "Lord of Saltaire," but will tell you the trade

he started was but a temporary one, the prosperity visionary, at least for the second generation, and that to no one was the trade of Bradford more indebted for its estrangement from all-wool fabrics than to Sir Titus Salt. Up to 1836 the Bradford worsted trade had a run of success, and to this time its fabrics were made wholly of wool. In 1838 cotton warps became a feature in the Bradford trade. The "Orleans cloth" seems to have been the first standard product. From this time the manufacture of all-wool goods declined, and by 1845 the town had entirely ceased to cultivate the trade. As I have shown, the use of cotton warps received a great impetus when the late Sir Titus Salt fully overcame the difficulties of preparing and spinning alpaca wool and combining it with cotton warp. As we have seen, he took advantage of the transition of the Bradford trade from worsted to cotton warps. At one time Sir Titus Salt was the only spinner of Alpaca weft in Bradford. With the introduction of alpacas, the trade in cotton-warp fabrics was fully established. Spinners left off spinning worsted warps, and the trade almost entirely changed from "all-wool," to "mixed" goods of cotton and worsted.

Meanwhile the French manufacturers never entered into competition with the Bradford people on mixed goods, but kept on steadily improving and cheapening the production of all-wool materials. They had faith in the soft goods. The jurors in their report on worsted stuffs in the Exposition of 1851 admitted the softness and brilliancy of the alpaca and mohair manufactures carried on at Bradford and Bingley, and the superiority of all their combinations of wool and cotton; but while leaving Bradford the enjoyment of this new industry, the Continent remained loyal to all-wool fabrics, maintaining their superiority in these. Everything went along swimmingly in Bradford, while the Bradfordians were making one material and the French another.

At first Bradford aimed to make high-class imitations of silk. By reason of novelty these goods at first commanded a large sale. But as these goods lost their hold on the pop-

ular taste Mr. Illingworth says the great aim seems to have been to make an imitation of an imitation; in other words, to run down prices. One firm produced an article, say, for 7d. a yard; he was at once eclipsed by another producing an imitation at 5d. ; while he in turn would find an ingenious imitator at 3½d.

The trade naturally deteriorated, and the tremendous increase in production of the finer wools in South America and Australia, combined with the great improvements in machinery and the cheapness of Continental labor, had a constant tendency to cheapen the genuine article, until to-day all-wool fabrics, which fifty years ago could only be made of harsh English wool for the lowest and medium prices, and which were coarse and unsightly, can now be made of fine, soft-textured wools at vastly lower prices. Says Mr. Illingworth: "There is nothing new in the so-called change of taste; the taste of to-day is the confirmation of the taste of the first thirty-five years of the century." The real truth about the decline of trade in Bradford is that Bradford is not making the kind of goods the public wants; it has not been long-sighted enough in watching the great change in the world's supply of wool; it changed from worsted to cotton warps, and burned the bridge that had carried it to prosperity in the early part of the present century. On the other hand, its successful Continental competitors owe their success and prosperity to their steadfast allegiance to all-wool fabrications. There is but one course open to Bradford, and that, in my opinion, is a return to the trade of 1835. It is no use, Micawber-like, to wait for something to turn up—to hope for a change in fashion. Fashion is too fickle a dame to intrust with a great industry. The staple article of Bradford should be an "all-wool" fabric. That will last as long as the world lasts. Change of fashion can be provided for, as I have clearly shown in my history of the Paisley trade, but a decided departure from fundamental principles, like that which Bradford made half a century ago, is sure to end

disastrously. It may be that Bradford will never regain the "all-wool" trade. With proper protection to make up for the difference in the price of labor, these goods will undoubtedly be made in the United States, and now that the ingenuity, industry, and thrift of New England are turned in this direction, there may be no opportunity for Bradford to extend its foreign trade, though with prompt and decided steps, and with Yorkshire economy and enterprise, it may be able to hold its home trade against the cheaper labor of the Continent.

XXV.

Migration of the Worsted Trade.

WORSTED stuff manufactured in England, according to the census of 1881, gives employment in round figures to 100,000 persons, of which number 64,000 are females and 36,000 males. So concentrated is this industry since its migration from Norfolk to Yorkshire, that nearly 96,000 out of the 100,000 employed are returned as in the West Riding of Yorkshire, and over 30,000 as employed in the city from which I write. In the United States the census of 1880 gives less than 19,000 employed in this industry, and owing to the adverse changes in the tariff laws of 1883, it is probable that the present number employed is less rather than more. Bradford, Halifax, and Keighley, and some other towns of minor importance, are the present seats of the worsted trade of Great Britain. One of the principal reasons for the migration of the worsted trade from the eastern counties to the North of England was the cheapness of labor. Norwich had from an early period enjoyed, almost without competition, the benefit of the fabrication of stuffs, and the workmen of that city, intelligent and full of spirit, obtained high wages, fared as operatives luxuriously, and

as a consequence were often insubordinate and "struck" for higher remuneration. The history of Norwich is blotted with the mutinies and strikes of refractory weavers. The Yorkshireman was an honest plodder; he lived largely upon oatmeal porridge, oatbread and milk, and in his frugality was not unlike his Scotch brother over the border. Thoresby, who lived in the last century, described the master Yorkshire workman of his day as a man of untiring energy and saving habits; their "whole air seemed to be the honest gaining of money." As an example of their thriftiness, he narrates that the refreshments given by inn-keepers to the clothiers who, from Bradforddale and other quarters, frequented Leeds market, consisted of a "pot of ale, a noggin of porridge, and a trencher of boiled or roast beef, the charge for which amounted to 2 pence." An inexpensive mode of existence, coupled with unceasing attention to business, laid the foundation of the worsted trade in this part of England.

XXVI.

OLD-TIME YORKSHIRE.

HERE is a description of the Bradford manufacturer of the eighteenth century: They rode betimes, and after a breakfast of porridge and milk betook themselves to the business of the day. Precisely at noon they dined—from Martinmas to Pasch, mostly on salted beeves, which generated the scurvy, a prevalent and frightful complaint in those days, and instead of the modern luxury of tea they partook in the afternoon of cold meat and bread, washing the repast down with copious draughts of ale. This was called, as it is to the present day in Bradford, "the drinking." Yorkshire ale in those days was proverbial for its excellence, and the practice of home-brewing was then, as it

is now, commoner in this district than in any other in England. The descendants of these frugal, hard-working, money-loving men live in costly homes, in the environs of Bradford, and enjoy more luxuries than their ancestors did; but, for all that, they inherit many of the old characteristics of old-time Bradfordians. First, perhaps, in their never-failing attention to business. I have seen in one large mill in Bradford three generations of one family at work. The head of the house, with white hair and the weight of more than three-score years and ten upon his shoulders, bending feebly over his desk; the son, already past the prime of life, iron-gray, with steady hand and clear head, in the counting-room, the real manager of the concern; the grandson, a young man of four or five and twenty, with blue, apron-like overalls, busy in the combing or spinning department, thoroughly conversant with all the details of the business, contented to be what his father and grandfather, and not unlikely his great-grandfather, were,—namely, manufacturers of worsted stuff. In New England too often we find the sons of manufacturers feeling after something else, the professions, perhaps, and leaving the mill or the shop to the "old gentleman," or perhaps a manager. While the average Yorkshireman is not quite so penurious as the average Scotchman, he is thrifty to the last degree. You see him carefully counting every item in his hotel bill or his lunch ticket. He inquires the cost of everything he buys, and brings the habits of the counting-house or factory into every transaction of life. It is this practice of the strictest economy in all directions, and incessant personal supervision of their factories, combined with low wages, that enable the Bradford manufacturers to produce goods so cheaply.

This closeness, however, together with a hatred for new methods, has its disadvantages as well as its advantages. It nearly lost Bradford the all-wool dress-goods trade a few years ago. First the fashion changed in favor of the French goods. The French excel, especially in high-priced goods. Long experience, careful scientific training of managers,

overlookers, and responsible men, enable the factories of Roubaix, Lille, Rheims, etc., to produce a constant succession of novelties in endless variety, so that every customer can have a distinct style of his own. Some of the enterprising and public-spirited citizens of Bradford, like Henry Mitchell, W. H. Shepherd, and others, saw at once that unless something was done in the way of technical instruction the all-wool dress-goods trade would be lost to the town. A technical school of instruction modeled after the Continental schools was proposed. The apathy of the typical, red-faced, broad-fisted, money-making Bradford manufacturer was about what one would expect. I have the word of Mr. Mitchell for it, that a greater number of them took no interest in it. They argued that as the large trade had developed under the old system they had better keep to their "traditions" and go on as they had done before, relying on the "rule of thumb," on energy, and on industry. Others declared that the Technical School would train a considerable number of young men, who would go to America and other countries, and those countries would get the benefit. Others were afraid that it would raise up a superior body of men, both as managers, overlookers, and manufacturers, and result in keener home competition. Had it not been for a few broad-minded and determined men, the project for this important school, which will be of incalculable benefit to the industries of Bradford, would have fallen an early victim to a short-sighted policy—prevalent among a class of manufacturers who have not yet learned the value of scientific training in the production of textiles.

XXVII.

MR. HENRY MITCHELL.

MR. HENRY MITCHELL, for the last thirty years merchant and distributor of worsted goods, and a man intellectually far above the average Bradford manufacturer, was the prime mover in establishing the Technical School here. Through the politeness of the Hon. William F. Grinnell, United States Consul at Bradford, I was introduced to Mr. Mitchell, and during my stay met him several times.

"Formerly," said Mr. Mitchell, "nearly the whole productions of Bradford consisted purely of worsted fabrics. Now cotton-warp goods, silk, alpaca, mohair, and Indian fiber are all materials largely used."

Mr. Mitchell was once a weaver himself, and is, I think, rather proud of the fact.

"What are some of the changes," I said, "that have taken place in the Bradford district since you have known it?"

"Formerly all the combing was done by hand and most of the weaving; that is, within my recollection. When I was a weaver, the speed of our power looms was about 90; now I think it is generally about 170 or 180 picks per minute."

"What is the present condition of the Bradford trade?"

"During the ten years ending in 1882 there has been considerable falling-off in production. Change in fashion, the enormous increase in production abroad, in the United States and other countries which were formerly dependent upon us for supplies, have had much to do with this."

"Are these countries supplying themselves now?"

"To a very large extent they are."

"Has the manufacture of wool and worsted of France and the Continent generally, increased as rapidly as that of England?"

"I should say more so; during the last twenty years the increase in France has been greater than in England."

Mr. Mitchell furthermore admitted that he thought in the New England States the operatives in this industry were better educated than in Bradford, though he could not say that of the Western and Southern States. Most of the machinery engaged in the worsted trade in the United States, Mr. Mitchell contends, comes from England, and the managers of mills, work-shops, and dye-works have also been obtained from England. Some of the students from the Technical School at Bradford have also left and gone to America, and have taken very responsible positions there, while they have constant applications for others to fill similar positions. The variety of the materials used in Bradford is large, and the materials are manufactured in an infinite variety of ways, both for women's dresses and for men's wear, so they have greater scope than any other branch of the textile industry. While Bradford can beat the French in the dyeing of mixed fabrics, and especially in the luster fabrics, in the all-wool and high-class goods France excels Bradford. Moreover, the designs generally come from France. And they are not always original designs for worsted goods. The worsted trade copy silk to a considerable extent. If, for instance, the silk manufacturers of Lyons bring out any particular kind of check goods or figured designs they are copied for next season in wool fabrics.

XXVIII.

BRADFORD SOCIETY AND WAGES.

I HAVE but little space to give to Bradford. The town itself lies in a valley, This valley, stretching from the moorlands above Aire at Shipley, forms at Bradford a considerable bend, and, being at this point joined by two small dells,

the town appears to be seated at the junction of four valleys. The surrounding landscape is picturesque. The town always seems to be bathed in rain or mist. It has a reddish brown appearance, owing to the color of the stone found in the vicinity and used largely in building. The shop windows are bright and fascinating to those like myself who love display of beautiful textile goods. The people as a rule are civil but suspicious of Americans. There is a constant undercurrent of uneasiness lest you may be a manufacturer, a designer, or an inventor in disguise. Though a place of nearly 200,000 inhabitants, there is no intellectual society. The average manufacturer is more interested in his house a race, a cricket match, or a football match than in music, or science or art. Hardly any of the manufacturers take any interest in the School of Technology. To be sure, they have annual town concerts, patronized by the honorable mayor, where the bosoms of the wealthy Bradfordians go to display the family jewels, and at which the Bradfordian himself will probably sit next to his wife with his hat on.

Another idiosyncrasy of the Yorkshire man is betting. Manufacturers and workmen alike indulge in wagering, and a race of any kind or foot-ball match will draw a crowd, no matter how depressed the times. Wages are recklessly squandered in betting and drinking on these occasions, and the natural consequences (to the workingman) are hunger and want at home for a long time afterward. The dialect of the Bradford working class "I feear is noan so eesay to leearn," so we will pass over that and try to ascertain something of the working classes, their homes, their manners of living, and their wages, and furthermore compare their wages with the earnings of hands engaged in similar occupations in our own country. We have seen by the census figures that nearly two-thirds of the total number engaged in the manufacture of worsted stuffs are females. In estimating the wages this is an important fact to bear in mind. Bradford probably has fewer really wretched tenement-houses than any town of its size in the kingdom. The work

people are very well housed, and, as English wages go, earn at the present moment good wages. A glance at the following table will indicate what those wages are:

Description of Labor.	Weekly Wages.	Description of Labor.	Weekly Wages.
Wool-sorters.....	\$ 7 17	Backmas-winders.....	\$4 62
Wool-sorters (boys).....	3 04	Card-jobbers.....	4 62
Washers (foreman).....	4 86	Card-grinders.....	5 34
Assistant washers.....	4 38	Combers.....	3 65
Dyers.....	3 71	Combers (women).....	2 79
Overseers.....	11 20	Box-winders.....	3 28
Carding overseers.....	8 14	Box-winders (women).....	2 31
Combing overseers.....	7 30	Repairers.....	3 40
Carders (men).....	4 01	Repairers (women).....	2 67
Carders (women).....	2 43	Finishers.....	2 49

Here we have women working at this disagreeable work all the week for the meagre sum of \$2.50. This may be said to be the average pay for women in this industry, as the above table is as near correct as it is possible to make such an exhibit, having been verified in every possible way. On the other hand, we find that with the single exception of wool-sorters, the average pay of men employed in this industry, excepting overseers, is less than \$5 a week. The pay of overseers in the worsted industry in Massachusetts ranges from \$15 to \$38 a week, the average, I should say, not less than \$21. Here the average would not be \$10 per week. This, however, is not important. What do the vast body of the workers get?

To begin, the average weekly pay of the best wool-sorters in the United States is from \$12 to \$21 per week. Over 100 ordinary sorters were returned last year in statistics of labor as making from \$10.44 to \$11.04 a week. Returns were received by the Massachusetts Bureau of Statistics from 4673 persons engaged in this industry, and it was found that the average pay for women in all branches was \$6.10 per week, more than double what a similar inquiry would show for Bradford. It was found that the average weekly wages paid to men was \$9 a week. Could identically the

same test be put to the wages of men in Bradford, the average would not be over half. To make the test similar one must have the same number of returns, and must also ascertain the percentage of the several kinds of occupations to the *personnel* of the mill or factory. Leaving foremen and overseers out of the question—always a confusing element, for some foremen may be cheap at \$30 a week and others dear at \$15—let us glance at the average pay of Bradford women in the spinning and manufacturing departments:

Description of Labor.	Weekly Wages.	Description of Labor.	Weekly Wages.
Drawers.....	\$2 25	Winders.....	\$2 92
Spinners.....	2 43	Reelers	3 52
Warpers	2 16	Weavers (coabinge).....	4 38
Duffers (girls).....	2 19	Weavers (dress goods).....	3 52
Duffers (twisting).....	2 00	Finishers (girls).....	2 19
Twisters.....	2 31	Doublers (girls).....	2 43

This brings us back to our average of about \$2.50 a week. Let any American manufacturer of worsted stuffs take his pencil and see what he has paid out for salaries in the above branches of the work, which combined form numerically probably nine-tenths of the salary list of the spinning and weaving departments, and he will find that he has paid out on the average not less than \$5.50 per week (more than double), and probably about \$6. Nearly two-thirds of the operatives in this industry are women. Again, in the dyeing departments I am inclined to think, after a very careful inquiry, that the American manufacturer would find his expenditure for wages doubled. From \$9 to \$21 per week is about the range for ordinary dyers. In Bradford the laborers in the dye-houses get about \$5 per week. The foreman of the Crabb House will average \$11, say, of the gray-room less than \$8; single room, \$9.75; dolly-room, \$8.75; fentering-room, \$9.25; drying-room, \$7.50. All this grade of men will make about \$18 a week in the United States. In Bradford color-dyers are paid the highest, the wages ranging from

\$7.50 to as high as \$28; but this latter price is for an exceptionally skilled man.

And now a word in conclusion about the homes and general condition of the working classes of Bradford. For England it is exceptionally good. The average pay for female operatives in Bradford is about \$2.50 per week. Lodging, with board, Consul Grinnell in his exceedingly able report to the State Department tells us, is 12s. 6d. (\$3.04) per week. It is evident, therefore, that these girls do not maintain themselves as so many do in New England. There are no boarding-houses of the description we so often find in the textile districts of the United States. The fact is that the wages of a majority of the male operatives are so meagre that it becomes almost necessary that one or more of the female members of the household find employment in the mills. The average rent for small four-room cottages is \$1.10 per week; six-room houses, \$1.60 per week. As the income of a vast majority of the men working in the textile trades will not average the year around more than \$5 per week, and certainly will not exceed \$6, except in exceptional cases, the \$2.50 which the women can bring to the family really enables the family to provide for their actual wants. This can be done for \$7.50 per week, but it allows nothing for the public-house, for betting, for races, for football matches. Many of the Bradford workmen, and they are no worse than those of the Yorkshire towns, and not so bad as the cutlers of Sheffield, spend in this way the few shillings that, if properly laid out, would convert a home of discomforts to one of simple comforts. Nor is the fault wholly the man's.

Of English factory women as wives I have a poor opinion. They are not educated; they work in factories up to the time of marriage; they learn very little of household work, and when they marry and set up house many of them have no notion how to make their husbands comfortable or to make ends meet. In Bradford, if any one will take the trouble to call around among the working classes, may be

found hundreds of homes all in a muddle. Untidiness, squalor, poor cooking, and general bad management are not likely to tempt husbands from the public-houses. The wife is an element too often left out in discussing the wage question. I have seen neat, tidy little homes right here in Bradford, and the income not more than \$6 a week. But these are exceptions in the textile regions. The demand for woman in the mills lessens her usefulness as mother and wife. There is a good deal of fustian and cheap after-dinner talk about the amelioration of the condition of the working-man by education, clubs, coffee-taverns, free libraries, the ballot, etc. So far this is mere surface work in England. The masses of toilers who work year after year for \$200 and \$250 per year—and there are millions in England doing this—are not reached at all. They are as badly off as ever they were. Literally, they have no hope! No future! Sickness, loss of work, or any accident, leaves them penniless and in want. You will probably see less of real want in Bradford at the present time than in any other town of its size and importance in the kingdom. Yet the average condition of the working classes will not compare for a moment with some of our New England towns engaged in similar pursuits. And it is this we want to guard against.

Even if wages in some branches of this industry are not twice as much in the United States as they are in England, we must remember that every reduction of duty does one of two things—makes idlers of a part of the 19,000 now engaged in the industry at home, or brings down the wages of those employed nearer the British standard. It also lessens our chances for the establishment of an industry which, next to the French, our people are peculiarly qualified to carry on successfully. Can any one read of the great progress we have made in the manufacture of silk, and not feel that we are neglecting our opportunities in the higher grades of worsted goods? As I have shown, the Bradford people are instinctively afraid of Americans. Lester keeps his velvet and plush mill at Maningham closed tightly against

all Americans. The doors of other factories are opened cautiously enough, and then only half way. In spun silk we are doing all that is being done in Europe, and with a bold, decided policy we have the skill, the capital, and the right men to do equally well in the manipulation of all the materials used in Bradford. A reduction of the tariff on the finer grades of goods will lead in the opposite direction.

XXIX.

MANINGHAM AND SALTAIRE—AN AFFABLE SILK-MANUFACTURER.

DURING a stay here of a week, I have visited many of the principal mills. I owe it to the citizens of Bradford to say that nowhere have I been more cordially received—the town officers, the Board of Trade, the Price Hall, the Police Department, the clubs, the libraries, and the great mills have all been open to me, and every facility afforded for the prosecution of my inquiry. Prominent citizens have taken pains to give me any information in their power, and I am especially indebted to Mr. W. F. Grinnell, the efficient United States Consul, who has assisted me in every possible way. My first visit was to Sir Titus Salt's town on the River Aire, called Saltaire. Sir Titus tried to do here what Pullman has far more successfully accomplished near Chicago. After dwelling in smoking manufacturing towns for the past six weeks, it was refreshing to see this neatly built little town in the midst of green fields of a cheerful country landscape, which contrasted favorably with the light-colored stone buildings and cleanly thoroughfares of Saltaire. The works are fine specimens of architecture, and cover ten or twelve acres. They are both substantial and elegant—a rare combination in English mills. They accommodate about four thousand hands, who find homes

in about eight hundred cottages built on a uniform plan in rows, conveying at once the idea of neatness and monotony. These dwellings are larger than those occupied by the Bradford operatives, having five rooms. The backs of the premises are inclosed by brick walls. The sanitary arrangements are said to be good. Provision has been made for the education and amusement as well as for the spiritual welfare of the people, in the erection of several churches, institutions, and schools. Baths encourage cleanliness, parks afford opportunity for healthy exercise, the suppression of beer-shops minimizes drunkenness, and alms-houses, an inevitable element of English civilization, open their cheerful doors for the aged and incapable. Cozy as the cottages are, clean as the streets are, handsome as the factory building is, there pervades all Saltaire an air of restraint about the people and a want of individuality that shows the folly of trying to make human beings like so many peas in a pod.

The gigantic silk manufactory of S. C. Lister at Maning-ham, about a couple of miles from the center of Bradford, is one of the most interesting places to a stranger. Mr. Lister is the inventor of a combing-machine that, I am told, revolutionized silk manufacturing. In spool silk Lister ranks with Coates and Clark in spool cotton, but, in addition to this, he has become famous in dress goods, plushes, and velvet. He is one of the few men in this world who have lived to see a magnificent monument, heroic size, erected to his own genius and public spirit. Bradford people believe in honoring their benefactors, as the statute of S. C. Lister in the Park and that of Sir Titus Salt near the Town Hall bear evidence.

Mr. Lister I found to be an exceedingly affable and able man. He is past sixty, with large brown eyes, gray hair and beard, plainly attired, evidently a good dinner and interesting companion. He greets strangers very cordially and gives a hearty laugh to emphasize his remarks.

"Ah," said he, "it is the foreign tariffs that have played

the mischief with us here. It is well enough to attribute it to this, that and the other, you know, but the foreign tariffs are at the bottom of it. We English have been guilty of great mistakes. We didn't know when we had a good thing. In 1852, at the great Exhibition, we played the part of the crow in *Æsop's fables* to you Yankee foxes. What a beautiful bird! you exclaimed, and the oily-tongued Frenchman echoed it. What would we not give to hear you sing, for a bird with such plumage must have an exquisite voice! And, thus flattered, we began to sing and out dropped the meat. Then the Yankee and the Frenchman ran off with our machinery and our ideas, clapped on a tariff, and soon settled our business—haw! haw! haw!"

And Mr. Lister leaned back in his chair and laughed, as the aptness of the comparison dawned upon him. Then he resumed:

"Yes, you shall go all over the mill; glad to let you go you know, providing you are not a manufacturer. Yes, you may go over, but not into the velvet department; couldn't do that; no one admitted into that department; not the velvet department—haw! haw! haw!"

And Mr. Lister again laughed louder than before.

So I was piloted over the mill by a red faced young man with black whiskers, but not into the velvet department. It was a sight long to be remembered, to watch the silk, from the boiling in strong little bags, through the various processes to the final weaving into dresses of the most delicate shades. How attractive the weaving-room! Every loom engaged in a different shade of silk, and the lightest hues of blue and pink rattling through the dusty machinery, without a flaw, without a spot. After the boiling and dyeing comes the combing; then the drawing into endless skeins which silently take their place in tin cylindrical receptacles; then the spinning into yarns of every number, and the twisting into spool silk. I noticed that the machinery is all made on the premises and everything kept close. The factory people, who live in comfortable houses

near the mill, seem contented and thrifty. The silk weavers are a better class of girls than those engaged in the worsted mills, and earn more money. Each family pays about 4s. 6d. or 4s. 9d. a week rent. Their houses each contain one general room, two bedrooms, and a garret. The floor of the lower room is paved with stone flags, in most cases partly covered by a rug, which can be taken up "wash days." Many of the rooms are cozy, with a well-blacked grate, white hearth, cheerful blazing fire, green or straw-colored Venetian blinds, mahogany furniture covered with horse-hair cloth, plenty of shells and cheap glass ornaments, and a profusion of antimacassars. I called at a score or so of these cottages and talked with the pleasant old Yorkshire dames who kept house while husband and daughters were at work. Some were making, all told, 30s. a week by the united efforts of husband and daughters; others only 22s. They never owned a home, and never expected to. All had heard of the land beyond the seas, and one or two had relatives who had gone out and done well. They complained very much of the high price of provisions in England. Of course those engaged in Lister's mills are a superior class of operatives. The houses in the other divisions of the city were not so good, and the interiors did not present the same comfortable appearance. The inmates of the latter complained of the dullness of trade, of their meagre, almost starvation earnings, and longed for something better.

"By strict economy," said one, "we are able to get enough to live upon, but saving is almost an impossibility unless there are at least three wage-earners in the family."

In such cases the girls were able to dress respectably and the family to live more comfortably.

I am glad to say there are no tenement-houses in Bradford. They are not allowed by the city, and as a result every family has its own cottage. In this respect, as well as in some others, it is far in advance of nearly all large English manufacturing towns. A couple of "Model Lodg-

ing-houses" provided for many who have no homes, and these unfortunate people are allowed a night's lodging and the privilege of the kitchen to cook their frugal meal, for 4d. or 6d. The "fourpenny beds" are in the common room; the "sixpenny beds" include the luxury of a room to yourself. I looked in one evening and found that fifty or sixty old fellows, some with their wives, had availed themselves of the "Model Lodging-house." The next step would be the workhouse.

XXX.

THE SHADY SIDE OF BRADFORD.

AT night, accompanied by Inspector Dobson, of the Bradford police force, who was deputed by Chief Constable Withers to "show me the city," I took a dip into the shady side of Bradford life. We went through the lowest quarters of the city, mostly occupied by the Irish, the inspector said, and dropped into the worst of the public-houses. In one of them we discovered about twenty women in a maudlin state of drunkenness, some of them leaning against the pewter-covered counter, affectionately hugging their beer mugs. They were wrangling with about half a score sottish-looking laborers, but the Inspector said probably none of them were mill hands. They did not strike me as a particularly vicious set. The Inspector pointed out in this locality the house, now vacant, where the last Bradford murder was committed. The streets were dark but well paved, and the police have things well in hand. Display of immorality on the street, such as that in London, is unknown, and there are few brothels in the town, the police knowing the names of the keepers and of the inmates of every one, which record is revised every year. Drunkenness is more under control here than in any city I have yet visited, and is gradually

decreasing. The coffee-houses vie successfully with the gin-shops in lavish display of gilt letters, glaring lights, stained glass and polished brass.

Said a publican: "The coffee-houses is playing the d—l with our trade, sir."

In 1865 the number of arrests for drunkenness in Bradford was 1,053; in 1881 only 346. This is very small for a town of its size, and only exceeds by 50 the number convicted the same year in Dewsbury (30,000 population). Yet one need not go thirsty in Bradford. The licensing district contains 194,000 inhabitants and glories in 1,219 licensed houses, one for each 159 persons. The condition of the people is far better here than in Dundee or Coatbridge.

What are called the "Gladstone groggeries" are considered the greatest evil in Bradford, and next to the coffee-houses are injuring the trade of the public-houses and beer-shops. They are so-called because that eminent statesman first licensed them. They are little tallow-chandler's shops, and "one-horse groceries," licensed to sell liquor "not to be drunk on the premises." The result is that people with running accounts at those groceries are tempted to drink at home, and women who would not go openly to the "Pub." buy their liquors under the disguise of groceries. Upon the whole, though the police of Bradford think they have minimized crime and drunkenness, during the last decade—for all that, the good old Bradford people, who centuries ago shut up the bar-shops and put the loafers to work, are not satisfied.

"I don't know," said Inspector Dobson, with a sigh, "what more we can do, unless we make a chapel of the place."

In the amusement line, Bradford is ingeniously dull, but not vicious. There are two music-halls, both of which I visited. The lowest might be called a variety show with the edge off, for the Salvation Army occupy the upper hall in the same building, offsetting by their pious hymns the ribaldry below. It was the benefit night of the "Old Favorite," said the "dodger" which announced as a bill of the

play "Ada Izon." The inducement beside the young lady in question was a "legitimate give-away," not in the American slang sense, but in earnest. The prizes to be distributed were substantial Bradford-made furniture, consisting of "splendid maple cane-seated chairs," "a large center-table," "a handsome cradle," "a nice iron bedstead," "a good, useful dolly tub and dolly" (is it necessary for me to say this is what the English housewife does her washing in?) "a useful fender," "a pretty washing-stand," and a number of other articles of household furniture. The place was suffocatingly hot, and filled with rather a rough, but, upon the whole, decently behaved, audience. All the men smoked, mostly pipes, and drinks were being sold to men and women alike, amid the singing of the "Favorite" and the clanging and twanging and toothing of a poor orchestra. At the second place I visited the "Two Orphans" was being performed to a thin house; admission, 6d and 3d. The audience were mostly mill hands.

At the "Theater Royal, Bradford," was one of those wretched English pantomimes "Sindbad the Sailor." These horrible combinations of insipid wit and doggerel, tin helmets and spangles, colored fire and scenic effects, stale airs and atrocious singing, flavored throughout with a display of jingoism and—no tights, have so far haunted me in every town. I have already seen "Robinson Crusoe" in York, "Robinson Crusoe" in Wakefield, "Robinson Crusoe" in Glasgow, "Robinson Crusoe" in Liverpool, "Robinson Crusoe" in Leeds, until I began to think the British public had gone Robinson Crusoe mad. This was "Sindbad," so I went, glad to exchange Defoe's modern adventure for the ancient mariner of the "Arabian Nights." I first elbowed my way into the pit, which was jammed to the doors, with respectable mechanics and their families and factory girls with their sweethearts. From there I ascended to the "dress circle," and "upper boxes," and found that they contained the shop-keepers and the business people of the town, who listened attentively to the balderdash, laughed heartily at

the coarsest and stalest jokes, and joined with the "gods" and the pit in applauding the jingo sentiments, which this year of course turn on the "Brilliant Egyptian Campaign," "The Gallant Sir Garnet," and such lines as "Stand, boys, stand steady and true," for to "fight for old England is the proper thing to do."

One night during my stay in the city I was invited to attend the annual subscription concert of St. George's Hall, which, by the way, is one of the largest in the kingdom. Here you see the wealth and beauty of the town. The hall was filled with a brilliant audience, mostly ladies, who, of course, appeared, as did the gentlemen, in evening dress. Bradfordians have always been noted for their love of music, and the concert, which was excellent, was listened to with marked attention.

I have no space to describe the worsted mills and other large factories which I have visited. They are certainly on an immense scale. No place in the world can make woolen yarn as Bradford can, and even the Continental countries have to buy Bradford yarn to weave into the fine French goods. One of the saddest sights was the scene of the late disaster. The falling chimney (over 300 feet high) had smashed in the adjoining mill as though it were a house built with cards. As I walked through the yards, which have now been cleared, the sorrow-stricken faces and swollen eyes of the old teamsters and yard hands told the story that they had lost a daughter or a son whose young life had been crushed out in the fearful catastrophe.

In this letter and in one that preceded it I have endeavored to picture to the reader what may now even be called busy Bradford. If I were asked what the keen, practical Bradford manufacturer thought on economic questions, I should frankly reply that after an experience of a generation some of them are prepared to prove that tariff duties come more largely out of the producer than the consumer. Some of them demonstrated this quite conclusively to me and illustrated it with the French tariff. One of the

most prominent, whose name would be known in the States did I feel at liberty to mention it, said:

“ The truth is, the higher the foreign tariff the lower we must make our goods and the less we can afford to pay labor. The least possible reduction in the United States tariff will be a grand thing for Bradford, but how it will affect your industries I can hardly say. We are obliged to sell our goods in France for the same price as we did before they enacted their higher tariff, and the Bradford manufacturer is paying that duty, *not the French consumers of the goods*. I know from practical experience what I am talking about, and I often tell my friends, the professors, if they would only come here to Bradford and stay for twelve months and look into the practical working of their pet theories, they might modify them somewhat. England can no longer control the markets of the world, nor can she convert the world to free trade. Some still cling to the hope that this will be done, but the sooner they get rid of these false notions the better, in my opinion. Trade problems can only be adjusted in a common-sense, practical way.”

These are not uncommon sentiments in the clubs and business places of Bradford, though, of course, most of the good people remain loyal to the Manchester school; but even they will grumble at times and mutter, “ How would the United States like to have its corn taxed ?”

XXXI.

HALIFAX—DARK DEEDS.

HALIFAX has been a famous town for ages. Camden “ most reverend head,” said in his day that it had not this name many centuries, being once called Horton. The name was changed through the villany of a priest, who, becoming enamoured of a beautiful Horton girl (Halifax to this day is

noted for pretty faces), but finding her impervious to his blandishments, cut off her head and hung it on a yew tree. The head grew to the tree, and many people visited the spot, and each person pulled off some twigs of the tree. The tree, stripped of its branches, seems to have maintained its reputation for sanctity among the credulous, and the vulgar fancied that the little veins spreading like threads of hair between the bark and body of the yew tree were the murdered maiden's identical hairs. A pilgrimage was started to the place, and such a concourse came that the village of Horton grew into a large town and took the name of Haliz-Foex, or Halifax — signifying Holy-Hair. The town clerk of Halifax told me that until recently the seal of the town had for its device a bush with human hair growing from it, evidently referring to the tradition. Halifax was once owned by the Warrens, and in an outburst of generosity one of their earls made it a present (in 1138) to the Abbey of Lewes. In a conversation with the present Mayor, Mr. Nathan Whitley, I was told that Halifax was to-day the largest parish in the kingdom, a distinction that I find, by the way, by a reference to Camden, that it enjoyed centuries ago, when it was said that Halifax was more famous for the largeness of its parish than for having been the birth-place of *Sacro Bosco*, or for the effectual way it dealt with thieves, "having eleven chapels and about 12,000 souls, so that the inhabitants often say their parish maintains more men than any other kind of animals." I am not quite sure whether the use of the word "animals" by Camden was not a delicate sarcasm, for in their treatment of one another the ancient families of Halifax, "who attended church regularly and answered the calls of the vicar," were more like wild animals than anything else. Indeed, Hull and Halifax have long been bracketed with hell itself; Hull on account of its rigid discipline to beggars, for they whipped all the foreign poor, and then set the poor fellows to work; and Halifax for the wholesale manner in which they cut off the heads of thieves. Hence the old litany:

From Hell, Hull, and Halifax,
Good Lord deliver us.

The early history of Halifax is sensational enough for the most sanguine appetites. In the present parish is Elland, a place noted for one of the most bloodthirsty exhibitions of passion and revenge recorded, and the scene of a famous "Ballad of Sir John Elland." The account of this tragedy is published in an old history of Halifax written over a century ago. It may be found in the appendix, and is thus announced:

REVENGE ON REVENGE ;
or a
Historical Narrative of the Tragica
Practices of Sir John
ELLAND OF ELLAND,
Committed upon the Persons of
Robert Beaumont and his
Alliance in the reign
Of Edward III., King of England.

The story of this feud is briefly this: A man named Exley killed a relative of Elland, who was High Sheriff of Yorkshire. To appease the righteous wrath of Elland, Exley gave him a piece of land. But Sir John was not satisfied and hungered for his life. Wherefore Exley fled to his relative and one of Sir John's neighbors, Sir Robert Beaumont, of Crosland Hall. Then Sir John called together the "men of Elland," and set off for blood. It was more convenient for Sir John to begin with some friend of the Beaumonts, so he dropped in, on his road to Crosland Hall, on the Quarmbys of Quarmby Hall, and on the Lockwoods of Lockwood Hall, and, finding the owners in, he cut off their heads, and hurried on to the Beaumonts'. A drawbridge and a moat proved a temporary obstacle to the king's High Sheriff and the "men of Elland," but after a short resistance they entered Sir Robert's bedchamber, and in fifteen minutes afterward Sir Robert's head lay in one part and his

body in another of the dining-room floor. Sir John and his followers then took refreshments, ordering the best victuals and wine in the late Sir Robert's house, and generously invited the late knight's two sons to join in the carousal. The younger did, but the elder, Adam, declined to take part in the festivities, having lost his appetite. Sir John was astonished at this and remarked: "See how heinously that lad doth take his father's death, and looks with a frowning countenance, as if he were resolved to take revenge."

Then we are told that the young Quarmbys and the young Lockwoods and the young Beaumonts went into training, practicing in all those feats of arms and skill then in vogue. After fifteen years had elapsed they one day lay in wait for the fiery High Sheriff as he came from holding court, and, not knowing them, Sir John courteously "doffed his bonnet," whereupon the Beaumont party fell upon him and cut his head off. Determining to extirpate the name of Elland, they next waited on Sir John's son, and as he was coming from church with his family, the Beaumonts, the Lockwoods, and the Quarmbys sent an arrow through his head and through the heart of his little son, and there the male line of the Ellands of Elland perished. Quarmby and Lockwood were afterward slain, but Beaumont escaped to Hungary. This little family feud illustrated the character of the old people of Halifax, and no wonder that from such beginnings the "man folk" became strong in arms, not to say cruel in their treatment of criminals and even of one another.

From Mayor Whitley I also obtained the history of the old "Gibbet law." The leading woolen men of the town having loaned the king some money which the monarch was unable to return, obtained from him the right to deal with their own thieves. The result was that if a felon was taken with stolen goods on his person amounting to 13*½*d., he was on conviction executed. Market days were set aside for these popular treats. The instrument by which these unhappy wretches were despatched still exists at Hali-

fax, and there remains on Gibbet Hill a square platform of stone raised about four feet above the level of the ground, and thirteen feet broad, ascended by a flight of stone steps, on which were formerly placed two upright pieces of timber fifteen feet high, joined by a cross-beam at the top; within these was a square block of wood with an ax at the lower end, the wood being worked with a rope and a pulley, the ax descending with great force upon the victim's throat. The city has fenced off what now remains of this survival of the earlier customs of Halifax, and the superintendent of the water-works, Mr. Lamber, takes great pleasure in showing the old stone platform, now moss-grown with age, to curious visitors to his works on Gibbet Hill.

XXXII.

HALIFAX—ITS DEPARTED GLORIES.

THE very earliest history of Halifax connects it with the worsted trade, and Camden said: "The industry of the inhabitants is also very surprising, who, possessing a soil which can scarcely maintain them at all, have carried on such a woolen manufacture, first established about seventy years ago, as to raise themselves great fortunes and bear the prize from all their neighbors." Thus wrote Camden in the sixteenth century. The woolen trade was first brought to Halifax from Ripon about the time of Henry VI., and in 1758 no less than thirty-four fulling-mills were in this parish.

To-day Halifax has about 75,500 inhabitants, and in 1848 became a municipal borough; before that it was under the jurisdiction of the Duke of Leeds. It glories in a worshipful Mayor and a fine Town Hall, which latter for size and beauty far exceeds that of Huddersfield. It can boast also of the tallest police force in the kingdom. The thirsty are

quenched at 255 public-houses and beer-shops—one to 208 of the population. It has, I am sorry to say, a local debt of nearly \$6,000,000. Halifax is to Bradford what Huddersfield is to Leeds, a sort of subdivision of the same trade, so that at the present trade is not brisk. But aside from the worsted trade proper, Halifax can boast of other important manufactures. It has one of the largest carpet manufactories in the empire, that of the Crossleys, employing 5,000 hands. James Akroyd's worsted mills employ from 4,000 to 5,000 hands when they are running at full force. Among the small trades are wire-making and card-making; Halifax, it is said, being the original seat for the card trade of the whole country. I had the pleasure of meeting one gentleman in this trade who had a complete set of books reaching back nearly a century (1784). Window curtains, damasks, table covers, and army cloth are made in Halifax. In reply to a question about the trade prospects of the town the Mayor said:

"This district probably suffers more than any other on account of the excessive duties put on our goods by Germany and the United States. Under the tariff the United States has actually made all its own carpets," and the good Mayor of Halifax looked horrified as he contemplated this enormity on the part of the United States.

The Mayor was a fine, fleshy-looking Englishman who would have looked well going in state to church in the days before the Municipal Reform act swept away the old historic municipal charter. The town clerk was an affable little man in a dark brown wig, which was, perhaps, the most conspicuous part of him. The Mayor was an aggressive free trader, and he told me how, in a recent speech, he had vanquished a local Nestor who had not yet swept the cobwebs of protection from his brains.

"The day the United States adopts free trade," said the Mayor, emphatically, "Great Britain had better look out, for she will have a far more dangerous competitor."

I said that was very true, because when the United States

adopts free trade, she will be able to compete with the world, and it is not likely that free trade will be adopted before that time arrives. I also suggested that it was rather unseemly, not to say unpatriotic, if a system of free trade in the United States would prove disastrous to British interests, for the English press and English statesmen to so vigorously urge the policy upon us.

The Mayor smiled faintly, and no doubt thought of the carpet and worsted trade of Halifax. Perhaps his mind reverted to the days when proud Halifax ranked above Leeds and Bradford in the cloth trade, when the merchants of Leeds and of Bradford circled round Piece Hall, and when the merchant princes of Halifax gave great banquets in their handsome mansions, when the goods of Halifax were sent to Spain and Portugal and South America. These were the palmy days of Halifax, but now all this has changed. Huddersfield, then only a part of the old parish of Almondbury, has grown into a larger town—better streets, larger shops, more enterprise, and brighter prospects. But in the center of Halifax stands that enormous Piece Hall occupied only by hucksters, and once a week used as a market. Silent and gloomy, it looks like a huge industrial tombstone—a reminder of the departed business of the once opulent town.

Leeds and Bradford have grown into mighty towns. Said one gentleman, as we gazed upon the vast expanse of Piece Hall and pictured it filled with a throng of busy old-time merchants: "First coming here to buy our goods, Leeds and Bradford next stole away our trade. Some say here it was from a lack of distributive system; others, a lack of skill; but I think it was a lack of enterprise on the part of our manufacturers. What a busy place old Piece Hall once was! And now but few of the fine stands are let."

To illustrate the opulence of the old cloth merchants of Halifax it is only necessary to call attention to such buildings as that now occupied by the Union Bank. In olden times this was the residence of one of the merchant princes,

and the principal office of the bank was then the banquet hall; the decorations on the ceiling were executed by an Italian artist who was occupied several years on the work. Nearly all these houses were in the center of the city, and adjoined the warehouses. In those days, of course, most of the goods were manufactured in the cottages of the people. Houses still remain in Halifax, or rather just outside the town, now used as farm-houses, which were formerly occupied by the Flemish operatives who first started the woolen trade in that part of the kingdom. To a stranger alighting at the depot on a cold, wet January day the town looks unattractive. The streets are narrow and dirty; and the surrounding hills at night remind an American of Pittsburgh without the glare of its furnaces. It is noted for whimsical buildings, curious courts, strange dark passages, droll little windows, quaint alleys, and innumerable turnings. It is not such a modern town as Huddersfield, yet far more unique, and around it clusters much more of historic interest.

XXXIII.

LEEDS—GIANT INDUSTRIES.

IN my letter from Halifax I presented a number of facts showing the decline of the trade of that town. I am now able to give the population of the two great woolen towns and the two great worsted towns of the empire for three periods during the nineteenth century which, figures bear out what was said in the Halifax letter. In 1831 Halifax was at its zenith, and it should be borne in mind that soon after this Bradford changed from all-wool goods to cotton warp and began its career of prosperity and increased its population from about 77,000 in 1831 to 183,000 in 1881. Here is the table:

	1801.	Rank.	1831.	Rank.	1881.	Rank.
Halifax.....	63,484	1	109,899	2	73,633	4
Leeds.....	53,162	2	123,393	1	309,126	1
Bradford.....	29,704	3	76,996	3	183,032	2
Huddersfield	14,848	4	34,041	4	81,825	3
Total.....	161,148		345,329		647,616	

At the opening of the present century Halifax had nearly ten thousand inhabitants more than Leeds; now Leeds has over four-fold the population of Halifax. In 1801 Bradford contained less than half the population of Halifax; to-day it has nearly three times the number. From the establishment of the woolen and worsted manufacture in the West Riding of Yorkshire the population gradually went up from 563,953 in 1801 to 976,400 in 1831, and 2,175,134 to-day. This shows an increase in the three first decades of the nineteenth century of 73 per cent, and in the last five decades of over 100 per cent. The aggregate population of the four cities above given shows an increase of over 100 per cent during the first period of thirty years; but during the second period of fifty years, of less than 100 per cent. Still I have shown that the population of the cloth country, taken as a whole, has increased more rapidly during the latter period, which may be attributed to the building of such places as Saltaire, Batey, and other small but thriving towns which had no existence prior to the introduction of the factory system. Those towns have already been mentioned and their location given in my general description of the woolen district. The drifting of trade from one town to another is worth noting as we pass, because I shall attempt, in my closing letters, a history of the migration of industrial centers in Great Britain.

I regret to say that in a volume of 400 pages put in circulation by the State Department at Washington, a few days before I left New York, entitled "The Cotton and Woolen

Mills of Europe," there are only a couple of pages of any value to either the statistician or the public, as giving fresh or carefully prepared information on the great woolen districts of Yorkshire. The exception I refer to is a table of wages prepared by Consul Dockery, which, after he explained to me the methods he adopted in preparing it, I believe may be taken as a fair average of the wages here in the Leeds district, but not for Yorkshire, and certainly not for Bradford. Since my stay in this city I have carefully gone over every page of the twenty-three volumes of the State Department Reports, containing, as they do, in the aggregate, about 5,000 closely printed pages, and am unable to find any article from any one of the consuls, of a general character, on the woolen manufacture of Great Britain, and yet one volume is called "The Woolen Mills of Europe"—strange that the most important region of the world is left out. And yet the annual report of Consul-General Merritt for 1882 shows that about \$94,000,000 worth of goods have in ten years gone to the United States from the Bradford district; over \$30,000,000 from the Leeds district; and nearly \$69,000,000 from the Glasgow district, the greater portion of all of which was woolen and worsted goods. The twenty-three volumes and five thousand printed pages aforesaid, however, contain valuable information relating to the "sale of cheap American trunks in South Africa," of "the disposal of an English railway in Tunis;" the arrival of \$47,000 worth of woolen goods in Tripoli is duly chronicled; pages teem with a glowing description of the customs and surroundings of Maracaibo; twenty pages suffice to give a description of the railway system of Scotland, which in its entirety equals, in miles, one-quarter of last year's increment in the United States; and there are pages on the industries of the Fiji Islands, the "Corset Trade of Württemberg," glowing account of "the Stuttgart Conservatory of Music," the "Ice Trade of Norway," the "Trade of Morocco with Timbuctoo," "How to Make Prime Butter," and a variety of other information, useful in its way, no

doubt, but not calculated to elevate the tone of the documents of a great department of a great country.

To attempt an exact comparison of the woolen and worsted industries of Great Britain with those of the United States is a very difficult task, because no adequate statistics exist for such a comparison. In England industrial statistics are not collected, as in the United States, by the Census Bureau, and the Board of Trade (the statistical department of the Government) makes no returns of this character, as English manufacturers have a decided dislike to disclosing anything about their business. The official returns under the factories and workshops act will assist in the inquiry so far as the number of hands are concerned, but it would be folly to attempt a guess, for it would be nothing else, of the annual product, amount of capital invested, and the value of the material consumed. Gen. Walker and his census experts have taken care to call public attention to the fact that all reports of the value of products are apt to include freight to market, commissions, insurance, and many other charges, and cannot, therefore, be relied upon as representing the sum actually realized by manufacturers for products sold. Regardless of this caution, however, the more fanatical free traders here have divided the total amount of wages paid, as shown by the census, by the total number of hands returned as employed, and armed with the quotient a Bradford gentleman attempted to prove to me the other evening, in the Union Club, that the American artisans as a whole were paid about the same as the English laborer, 5½d., or 11 cents, an hour. These figures have gone the rounds of the English press, and I have no doubt will find their way into the speeches of English statesmen and into the pages of the English reviews. No explanation is made of the fact that the divisor represents merely the greatest number employed at some one time during the year; that it represents people of all ages, and that the experts, who are compelled by law to make up these statistics, frankly say they are worthless for such comparisons. For these reasons I shall

make no attempt to compare amounts paid in wages, value of material consumed, or of product produced.

The most recent official figures at my command show that in the United Kingdom there are about 1,800 woolen factories, 125 shoddy mills, and 700 worsted manufactories, making a total of 2,625. The classification of the United States census is somewhat different, and no special enumeration is made of the shoddy mills. Broadly speaking, there are 1,990 woolen mills in the United States and (including felt goods, carpets, hosiery, etc., under worsted goods), 696 worsted mills; total, 2,680—strangely enough exceeding the number in Great Britain by 61, though it must be remembered that the British mills are much larger institutions, established on a firmer basis, and employing nearly double the number of hands. In the United States the woolen factories are scattered all over the country; in England the industry is concentrated in a radius of $22\frac{1}{2}$ miles, and to this remarkable concentration, as much as to the cheap labor, England owes her supremacy in the woolen trade. The United States census of 1880 shows that in the United States 161,489 persons are employed in this industry; 86,504 in the manufacture of woolen goods; 18,803 in the worsted branch; 20,371 in making carpets; 28,817 in the hosiery and knit-goods division, and the remainder in manufacturing wool hats and felt goods. In Great Britain the woolen factories employ 66,717 males and 67,888 females; total 134,605; the shoddy mills, 1,571 males and 1,860 females; total 3,431; and the worsted factories 57,050 males and 85,047 females; total 142,097; making a grand total in these three branches of 280,133. This does not include, as the American statistics do, the hosiery and miscellaneous factories, which may be classified under the generic term, "woolen goods." Add hosiery and it increases the number of factories 556, and the number of hands employed 27,667, making the total number employed in the kingdom 307,800, against 161,489 in the United States, which, when one takes into consideration the difference in the methods of enumeration, means

that Great Britain employs double the number of hands in this industry compared with the number employed in the States. This comparison will show the relative strength of the woolen industry in the two countries without carrying it further, which, owing to the imperfection of the statistics, might only lead into error. It may be useful to show the quantity and value of the imports of raw wool, woolen rags and woolen yarns for weaving, into Great Britain in 1880; together with the number of pounds and yards and value of the exports from that country to foreign parts:

	Quantity, pounds.	Value.
Sheep and lambs' wool.....	460,337,412	\$130,812,710
Alpaca, vicuna, llama.....	2,547,706	884,185
Goats' wool or hair.....	13,203,343	5,984,545
Woolen rags.....	92,279,040	4,896,355
Woolen yarn for weaving.....	14,193,639	8,568,835
 Total.....	 582,561,140	 \$150,346,630

The exports were:

Sheep and lambs' wool, pounds...	17,177,200	\$5,927,530
Woolen and worsted yarns, pounds	26,154,300	16,720,140
Woolen cloth, yards.....	50,062,500	33,670,140
Worsted stuffs, yards.....	189,940,200	36,157,885
 Total.....	.....	\$92,475,695

XXXIV.

LEEDS—COMPETITION.

THE growth of the woolen industry of the United States dates from the close of the war. In 1860 the country produced but 60,000,000 pounds of wool and imported about 42,000,000 pounds, consuming annually about 100,000,000 pounds. Under a judicious tariff, the wool clip reached in 1881, 290,000,000 pounds, and the importation 68,000,000 pounds, making the total consumption probably 258,000,000 -

pounds. Now that the United States has embarked in this industry, it will not do to pause and suppose that the United States is strong enough to compete with England. It is easy to say the total product of the woolen factories has reached in value in 1880, \$267,000,000; that it is no longer an infant industry and needs no more protection.

What have I shown in this letter?

That we are competing with a country employing double the number of operatives with a less number of establishments:

That the mills in England are concentrated in a radius of twenty-two and a half miles:

That during America's second war with England, when Richard Cobden was picking up the rudiments of knowledge at the old grammar school at Midhurst, and a generation before the Manchester school carried the day in Parliament, England was exporting annually \$50,000,000 worth of woolen goods, while after sixty-five years of free trade she only exports \$92,000,000 worth!

And yet the British free trader and his echo in the United States talk of monopoly.

Wherein is the monopoly?

The official figures show that 649 worsted mills in England employ 131,830 hands, while in the United States I have shown that nearly 2,000 woolen mills, spreading their benefits throughout the broad land, following closely along the lines of agriculture, and building up thriving manufacturing cities in the West, employ but 86,504 operatives. Had it not been for this development in America, England would have maintained the American trade, and her exports of woolen goods to-day would have been \$360,000,000 instead of but \$42,000,000 more than it was in 1815. Wages in those times in England were good, and the British manufacturer really supposed that all the world was dependent on him for manufactured goods. A weaver in 1815 could earn 34s. 6d., or about \$8.50 a week, while to-day he is lucky to earn half of that amount. Of course I am aware that these high

wages arose in part out of improvements in weaving. It was difficult to get weavers. But the profits of weaving soon increased the supply, and children were extensively taught to weave. In the case of cotton and worsted, in which work is light, the labor of the parent was soon transferred to the child, but in woolen cloth weaving, which is practically a man's work, the change was not so rapid, as the statistics already given show that the proportion of males in this latter branch of the trade is much greater than in the worsted division.

Next comes a comparison of wages in this industry. In the following table the average weekly earnings in the United States are taken from Mr. Carroll O. Wright's report for 1882, which I regard as the very best authority; while those from England were obtained by myself direct from the pay rolls of manufacturers in Yorkshire:

OPERATIVES.	AVERAGE WEEKLY EARNINGS.		
	U. S.	England.	Excess in U. S.
Wool-sorters (men).....	\$9 43	\$6 00	\$3 43
Washers and scourers (men).....	8 84	5 75	3 09
Dyers (men).....	7 81	5 75	2 06
Young persons.....	5 12	3 00	2 12
Carders (men).....	8 12	5 00	3 12
Carders (women).....	3 39	3 25	2 14
Carders (young persons).....	4 53	2 50	2 03
Spinners (men).....	9 02	5 00	4 05
Spinners (boys).....	4 81	2 00	2 81
Spinners (women).....	6 18	3 00	3 18
Spinners (young persons).....	4 92	2 50	2 42
Weavers (men).....	8 53	5 00	3 53
Weavers (women).....	7 45	3 50	3 95
Giggers (men).....	7 00	5 00	2 00
Shearers (men).....	8 05	5 25	2 80
Mechanics (men).....	13 43	7 50	5 93
Engineers (men).....	11 07	7 50	3 75
Firemen.....	8 00	6 00	2 00
Watchmen.....	9 63	5 00	4 63
Laborers (men).....	8 58	4 50	4 18

There is no general market rate for foremen and overseers, their wages depending on skill, length of service with the particular mill, and varying considerably in different localities. I have selected for the above table the most important people about the mills. I have not sought to confuse the reader with a detailed tabulated statement, but I can vouch for what I have given, as they were obtained from the books of two different manufacturers, carefully compared and afterward substantially verified by conversation with each class of operatives. It is also safe to say they are above rather than below the real amount paid. I have no doubt that Mr. Wright's figures for Massachusetts are equally trustworthy. It will be seen that in some divisions of the woolen industry American manufacturers have to pay nearly double the amount paid for the same labor in England. I regret that Mr. Wright in his report makes no separate division of the worsted mills, so the following table cannot be compared with a similar mill in the United States:

WORSTED MANUFACTURE IN ENGLAND.

(Hours of labor 56 per week.)

Wool sorters (men).....	\$7 50 to \$8 00
Machine wool-combers (men).....	3 50 to 4 25
Dyers (men)	3 25 to 6 00
Overlookers (men).....	7 00 to 8 00
Overlookers' assistants (men).....	2 50 to 5 00
Spinners (women).....	2 50 to 3 00
Spinners (boys)	2 25 to 2 75
Spinners (girls).....	1 00 to 1 50
Weavers (men).....	4 00 to 5 00
Weavers (women).....	3 00 to 4 00
Reelers (women)	3 00 to 4 00
Drawers (women)	2 50 to 2 75
Packers (women).....	4 00 to 5 00
Wool-washers (women).....	4 00 to 4 50

The figures for the above table were also obtained from the counting-room books of a representative worsted mill, and, as in the above, the information thus obtained corroborated by personal interviews with the operatives and with

other manufacturers. In some cases it will be seen the difference in the earnings of the same class of operatives is considerable, but as in the case of dyers and overlookers' assistants, the skill and aptitude of the hand, together with the time of service, differs more widely than in spinning and weaving. Though even in these latter divisions of the work some girls are able to earn much more than others. Again, these figures err, if it all, on the right side, for some of the most trustworthy of Bradford's manufacturers assured me that young persons from thirteen to eighteen years of age never earned more than 12s. (less than \$3) a week, and that they descended as low as 6s. (less than \$1.50) a week for fifty-six hours of steady, confining, dusty, tedious work, and the men varied in their earnings from 15s., 18s. to 20s. (from \$3.75 to \$5) but that the latter was exceptional, he said. And this with a family to maintain.

And so toiling and sorrowing, with no future and little hope, contented to live and die in the shadow of these giant factories, with little or no chance to better themselves, fixtures, in fact, around the mills, as the peasants were to the land in feudal times, the English operatives slave on, while the mill-owner discusses in the club how he can produce an article a farthing cheaper per yard. The idea of cheapness pervades the whole kingdom. It is all some people seem to live for. There is no limit to it. The struggle for cheapness sometimes brings ruin to the mill-owner and starvation to the operatives. But for all that the struggle goes on. For example, when in Scotland in December, I traveled in some cases for less than a penny a mile first-class. In my opinion no one demands this; in fact the public has no right to demand it, for it means the degradation of labor. What is the result of Scotland's cheap railway traveling?

A strike—which has unfolded to the public what their so-called “demands for cheap traveling” mean—the suffering that their fellow-beings have undergone.

It is not a mere question, in Scotland, whether the men

shall work fifty-six or fifty-seven hours a week; but it is whether they should be required to hang on at important duty till nature is so exhausted that they fall asleep clutching the handles of the critical levers on the accurate moving of which the lives of hundreds of travelers depend. At one of the meetings of the men, this week, an engine-driver stated that in one week he worked ninety-six hours, his Thursdays spell lasting $23\frac{1}{2}$ hours. A pointsman had 200 hours duty in a single fortnight. A goods guard for twenty consecutive days had 360 working hours, or an average of eighteen hours a day. These astonishing revelations might well make one pause, when advocating that cheapness is the only thing to be considered. Cheapness in railroading and cheapness in manufacturing means the exhaustion or the starvation of the laborers. It can be obtained in no other way. Free trade may bring cheapness. It will not prevent the degradation of labor.

XXXV.

HUDDERSFIELD—ROBIN HOOD.

“HUDDERSFIELD, Almondbury,” would look as grotesque now as “Bradford, near Leeds,” yet there was a time when the expression was literally the correct one. Huddersfield is what they call in England, a modern town; that is, I suppose, its name does not appear in “Domesday Book.” The antiquities, however, are supplied from the neighboring parish of Almondbury, which has existed from time immemorial, and which to-day is called “the old part of Huddersfield.” Though honored by name in conquering William’s Book, it must not be understood that Huddersfield was not “indirectly mentioned,” for industrious local antiquarians have discovered that the district in which Huddersfield now stands was described in Domesday Book as “six carucates of land to be taxed, affording occupation for eight ploughs.” Anything to be taxed was not likely to escape those who “came over” with William, so Hudders-

field was noted. In place of the "eight ploughs," the Huddersfield of to-day affords occupation for thousands of operatives in its busy cloth mills. Its wide streets and handsome buildings, built almost entirely of fine, whitish free-stone, make it one of the prettiest and cleanest manufacturing towns of the Cloth Region. There are plenty of good shops, several fine banks, and the people seem to have lots of vim and "goaheadativeness" in them. The town itself is hemmed in on all sides by high hills and along the banks of the Calder and the Coine (both in the vicinity) there are many lovely spots—deep secluded dells, high, precipitous ridges and densely wooded hills. In the midst of this wild scenery, and not far from Huddersfield, is the ancient priory where Robin Hood died. The Prioress of Kirkiees Priory was supposed to be the outlaw's cousin, and in a little room in the quaint old gate-house Robin Hood begged of Little John for one more look at the landscape he loved so well, and as his life blood ebbed fast, the lattice window was thrown open, and invigorated by the fresh, fragrant breeze, he took his bow and sent forth an arrow.

" And where this arrow down should fall
There buried should he be."

In former days it was the custom to write words of wisdom on tombstones and underneath portraits. "The older part of Huddersfield" glories in some of those lines, which a new and reckless generation may perhaps read in spite of the adverse handling of ancient orthography, and possibly profit therefrom. Here is one I deciphered on a picture in a haunted hall near Huddersfield—it is descriptive of the life of an honest Yorkshire matron, *vita uxoris honesta*:

To live at home in howswyverie,
To order well my famlyye,
To see they lyve not Idillye,
To bring upe childrene vertuislye,
To relyeve poor foulk willinglye:
This is my care with modestye,
To leade my lyfe in honestye.

Wholesome sentiments those, and the good old dames of Huddersfield also believe in

“Obeying our husbands in what lawful is.”

Honest, sober, thrifty and industrious were the ancestors of the manufacturers of Huddersfield, and to this day, unlike some towns in the cloth district, the aim in Huddersfield is quality rather than cheapness, and the great Lord of Shoddy, with its maximum of slurriness, swiftness, profit and mendacity, for the devil's sake, amen, is not worshipped to the same extent as at Batley, Dewsbury, and, in some lines of trade, I may add Bradford. In its production of better-class goods, in worsted makes especially, Huddersfield now stands unrivalled, and its success and present prosperity are largely due to this; and its goods are attractive enough to break in abroad over the cheaper labor of the continent and the adverse tariff laws of nearly all foreign countries.

Though destitute of ancient history, the industrial growth of Huddersfield has not been attained without its share of bloody stains and tragic deeds, which, owing to ignorance and prejudice, and sometimes to actual want, ushered in the great industrial era of England's history. This outbreak of ignorance against the inventions and improvements made in the machinery for spinning and weaving at one time threatened to be more secret, more grim, and more disastrous to progress than anything of the kind known even in the middle ages. It began by an outbreak of framework knitters at Nottingham, who could not exist on the small wages to which they were reduced, and only ended when they discovered that by chopping up and burning frames they were destroying the means by which they might live. The Luddite insurrection was brought about by the introduction of machinery for finishing cloth, and though it took its rise in Nottingham, soon spread into Yorkshire, and Huddersfield was one of the towns most deeply engaged in it. A great number of croppers joined

themselves into a confederacy, and avowed with fearful oaths their determination to prevent the introduction of machinery into this branch of trade. They prowled about the country at night, their faces variously disguised, and appearing where least expected, would smash into fragments manufacturers' frames, cut woolen cloth into shreds and waylay and murder the manufacturer. A reign of terror followed, and it was not safe for Huddersfield manufacturers to walk abroad after nightfall. This ill feeling between master and men continued to break out in various ways until the commercial depression of 1817, when it culminated in Huddersfield in the famous "Folly Hall" fight, at which place some hundreds of discontented men assembled, deluded by the expectation that they would be joined by men from all parts of the kingdom, that they would then march to London and overturn the Government. The appearance of the militia finally dispersed the rioters. In 1820, owing to the shocking distress which prevailed among the manufacturing operatives, an attack was made on all sides of Huddersfield. The mails were stopped and an open rebellion threatened, but, not being joined by an expected army of London roughs, and hearing of the rapid approach of the king's troops, they dispersed with but little bloodshed.

XXXVI.

HUDDERSFIELD—PANDEMONIUM ITSELF.

THE Huddersfield "men-folk," like their neighbors at Bradford, never hesitated to use physical force to gain a point either from the manufacturer or from Parliament, and in this they have oftentimes been even cruel. A Huddersfield parliamentary election half a century ago, during the agitation of the "Ten Hours" bill, was a lively and a rough scene. The eminent Scottish divine, Dr. Chalmers, once visited the town during one of these contests, and

could compare the yelling myriads in the market place with nothing short of Pandemonium itself. From the window of the George Inn the Doctor saw a prodigious assembly of people at a market. The crowd, he says, was further augmented by a political meeting in the open air, and the whole of the spacious Market Place was filled with the multitude. A Mr. Oastler held forth in the most forensic manner and depicted the sufferings of the factory children. The multitude alternately yelled and cheered. Then followed what, to the pious Doctor, was an "original scene"—the burning of the Factory Commissioners, Captain Fenton, one of the obnoxious members of Parliament, and another unpopular master manufacturer, in effigy. "The figures were fearfully like men," says Dr. Chalmers, "and it being now dark, the conflagration lighted up the whole square, and revealed the faces of the yelling myriads so as to give the aspect and character of Pandemonium to the scene. The burning figures were tossed ferociously in the air, and to renew their combustion were dashed into a bon-fire from time to time."

But these were the "good old times" in England, when the upper classes were coarse, drunken, and ill-mannered, and the lower classes ferocious and brutal; when the popular amusements of the people were man-fighting, dog-fighting, and cock-fighting, and their "time-honored institutions" the public gallows, the stock, and the pillory. Such ferocious amusements have happily now departed and the laborers and operatives of the manufacturing towns have healthier amusements and recreations, if they choose to avail themselves of them, and have opportunity, at least, to lead a sounder and soberer life, and to exhibit a more humane spirit than they did in the earlier part of the present century.

"We ought to increase our trade with the United States," said Mr. James Drake, one of the leading woolen manufacturers of Huddersfield. "The fact is," continued he, "last year we sent from here \$3,378,000 worth of goods to your

country; but we ought to send more. For twenty years has Huddersfield been struggling against adverse tariffs. Our own colonies are worse than foreign countries. They generously allow England to fight for them at our own expense, but when we want to send them goods they put on a tariff and shut us out. This is the case in Canada, Victoria, New Zealand, and the Cape."

"Then you think foreign tariffs are the impediments in the way of extending trade?"

"Most assuredly. The United States, France, Germany, Italy, Spain, Australia and Russia, all turn their tariffs against us. No sooner do we invent something here, say in tweeds, cheap and attractive, than they begin to fight their way, in spite of these formidable obstacles, into these countries; then they increase the pound duty, or by some other ingenious device block us."

In a further conversation with Mr. Drake, whom I found a most intelligent man, he told me that on account of the high duties in Germany low, heavy woolen goods are nearly driven out of the market, and several of the Dewsbury and Batley manufacturers have now opened mills in Germany, where they produce these goods. Of course he admitted that looking at the question from a political standpoint, this was a good thing for Germany. The manufacturers of the cloth country are all complaining bitterly of the new French tariff, not only on account of the duties being higher, but of the "vexatious and ridiculous mode of classification and incidence." The classification is always "ridiculous" here when it keeps out the goods. I also learned in Huddersfield that the Italian demand for English woolens is not what it used to be in former years. The high tariff they say is, of course, a great drawback, "while the Italian manufacturers continue to increase." This is almost a crime in the eyes of an Englishman. "And though this interest is not as yet a large one, on account of cheap labor, long hours, and some useful wool grown in their own country, their manufacturers are enabled to produce a variety

of useful goods at an extremely cheap rate." The demand for "Dewsbury seal-skins" has also greatly fallen off in Germany during the past year, owing to the fact that the Dewsbury seal-skin men have also started factories in Bismarck's domains, and Germany manufactures its own "seal-skins." The prospect of reduced tariff in any country is heralded with great delight at Huddersfield. The subject has been recently agitated in Spain, "but without, so far, practical results," said one manufacturer. Said another prominent mill owner:

"The success of the Democratic party in America and their coming majority in Congress and their prospects in 1884, are looked upon here as forerunners of a day-break in the trade of the cloth country. Their traditions are Free Trade, and the manufacturers of England confidently expect that, should they be installed at Washington, they will throw down wholly, or at least in part, the artificial barriers which have so long and maleficently barred out our products. Should that fortunate day come for the great textile and great mining and great manufacturing counties of England, the increased skill of our manufacturers, their enlarged experience, their cheaper capital labor, and their concentration of effort, will again give us back at least a good part of the fifty millions of customers of whom we have been robbed by your high war tariff."

I said to my enthusiastic friend: "Build not your hopes on the Democratic party."

When the prosperity of these hives of human industry concentrated, as they are, in such a limited area, depends so much upon the tariffs of other countries, all of which seem of late years determined to develop home industries, is it surprising that the English manufacturer, as he views his great workshop, trembling at the uncertainty of foreign legislation, should exclaim:

"This sinister fallacy of Protection seems to lead a charmed life, clinging as closely to many distinguished foreign statesmen as the Old Man of the Sea did to Sindbad;

and, if the figure may be so suddenly changed, rising ever like a phoenix from the ashes of its own manifest failures."

Its "own manifest failures," the building up in the United States of an industrial empire to-day greater than the lesser Britain from which it sprang; the conversion of a vast farming country into a land of varied pursuits and great industrial cities; the starting of industries in war-like Germany, to find employment for and possibly stem the outpouring of the flower of its population to other lands; the dawn of an industrial era in the Italian Republic, and the return of manufacturing prosperity to poverty-stricken Spain. In this brief letter I have shown from words spoken by the manufacturers of Huddersfield themselves that these are the present tendencies of Protection. Why, then, should not "many distinguished statesmen" naturally doubt the wisdom of a system propounding *laissez-faire* as the last word of human wisdom?

XXXVII.

HUDDERSFIELD LOGIC.

The following comments appeared in *The Tribune* with the interview with Mr. Drake. Mr. Charles Reade in one of his novels gives a pictorial illustration of provincial manoeuvres in England. The country is traced on a large scale, limited only by the breadth of the page; the United Kingdom is outlined in reduced proportions within the county, and the globe is an insignificant ball scarcely larger than a pea, squeezed into an obscure corner. These were the relative proportions which the world, the kingdom and the county had acquired in the mind of a typical English squire. The manufacturers of Huddersfield whose talk Mr. Porter reproduced for our readers in his admirable letter have a similar conception of industrial progress. Huddersfield occupies

so large a share of their thoughts that they cannot find space for much else. England is tucked away somewhere inside Huddersfield, and the terrestrial ball is left spinning in minute insignificance just outside Huddersfield. They complain that for twenty years, Huddersfield has been struggling against adverse tariffs. English diplomats cannot negotiate free-trade tariffs for Huddersfield benefit. English economists cannot induce a foolish and wicked world to do its duty by Huddersfield. As soon as Huddersfield invents something new in tweeds "cheap and attractive," and a foreign market is opened for it, up goes the duty and Huddersfield is cheated out of the fruits of its industry. Bismarck's tariff has shut out all, except the finest class of Huddersfield's woolens, and Germany has actually begun to produce the low heavy grade for itself, and is even manufacturing its own sealskins. The French mode of classification is also vexatious as far as Huddersfield is concerned, and Italian manufactures are steadily increasing under one of those "absurd" high tariffs. Spain, Austria and Russia are indifferent to Huddersfield's welfare; and as for the British Colonies, Canada, Victoria and the Cape, they are "worse than foreign countries." Altogether it seems a dark night for Huddersfield, and the only gleam of light is the prospect of Democratic success in American elections. "That," says one of Huddersfield's woolen manufacturers, "will again give us back at least a good part of the fifty millions of customers of whom we have been robbed by your high war tariff."

Huddersfield's logic in this matter is so simple, that it can be readily followed even by those who regard economies as a science of complex abstractions. Free-trade is a system which happens to suit Huddersfield's individuality. If it could be rendered a principle of universal application, Huddersfield would revel in prosperity, making woolens not only for England and Ireland, but also for fifty million customers in the United States and for the rest of mankind. Huddersfield naturally infers that a policy which undoubt-

edly would be best for itself must also be best for all nations. It wants to have the tariffs broken down. It cannot understand why the nations of the earth are unwilling to find out what they can make most cheaply or what they can do most profitably, and then make it and do just that. For making cloth to Huddersfield has the advantages of perfected skill, enlarged experience, cheap capital and cheap labor. Huddersfield is willing to make cloth for customers all over the world, and receive in return the cheapest products of every nation. It could do this now if "the sinister principle of Protection" were not in the way. Under a competitive system of free-trade it is confident that the nations would be admitted into a universal brotherhood whose chief concern would be the greatest good of the greatest number. As a matter of course it would expect to make nearly all the cloth for that federated commonwealth of unselfish humanity: and what a spectacle it would be for gods and men ! An era of universal peace, nations trafficking their cheapest products, and mankind arrayed with one consent in Huddersfield woollens !

The fallacy in Huddersfield logic is the assumption that what suits it individually, will of necessity be best for governments and nations under all combinations of economic conditions. Huddersfield, and England as well, have undoubtedly prospered under free-trade, and if they were not encompassed by a community of high-tariff nations, they would probably thrive as they have never thrived in the past. But the conditions affecting Huddersfield are not universal, and it does not follow that because England would be benefited by universal free-trade, other nations must recognize all obligations to incur industrial martyrdom for the sake of an abstract principle. Nations, like men of business, are guided by practical experience, rather than by vague and amiable theories. If Bismarck finds that Protection gives elasticity to the revenue, develops industries, gives employment to a surplus population, checks emigration, and in a general way promotes the welfare of the

Fatherland, he will not abolish the tariff for the sake of the idealists' millenium, and the Huddersfield cloth trade. If Canada, as Lord Lorne admitted when he was in Washington, has been directly benefited by Protection, she will not return to free-trade to promote the ends of universal brotherhood, and the profits of Huddersfield. Nor will the United States which a transatlantic traveller has described as "forty Englands rolled into one" renounce its economic policy for the sake of glittering generalities and Huddersfield. It has done what it could to promote the greatest good of the greatest number of its own people, and it leaves idealists to work out their own dreams.

XXXVIII.

THE CLOTHIERS OF DEFOE'S TIME.

THE antiquity of Leeds is undoubted. The Venerable Bede mentions it as the place where Ofwy, King of Northumberland, routed Penda, the Mercian, "and that to the great advantage of both nations." Leland, over three centuries ago, thought it was "praty market towne having one paroche chirche, reasonably well buildid, and as large as Bradeford, but not so quick as it. The towne stondith most by clothing." Camden, in the seventeenth century, described Leeds as "a wealthy cloathing town." This, until we come down to that precursor of all British guide-books, Defoe's "Tour Through Great Britain," was the sum of what the old historians had to say about Leeds. Defoe, however, writing over a century and a half ago, seems to have been struck with the importance of Leeds, though he dismissed Bradford as being "of no other note than having given birth to Dr. Sharp, the good Archbishop of York." He described Leeds as "a large, wealthy and populous town," with a stone bridge so strong, so large and so wide that formerly

the cloth market was held on it, "and therefore the refreshment given the clothiers by the inn-keepers (being a pot of ale, a noggin of pottage and a trencher of beef for twopence) is called the 'Brigshot' to this day." According to Defoe, in his time the Leeds cloth market was "a prodigy of its kind, and perhaps not to be equalled in the world." He had seen the market for serges at Exeter, which "is indeed a wonderful thing," but that was only once a week, whereas Leeds held a market every Tuesday and Saturday. Early in the morning of these market days "tressels were placed in two rows in the streets," making a temporary counter. The clothiers came in early in the morning with their cloth, and at "6 o'clock in the summer and 7 in the winter the market bell at the old chapel by the bridge rings; upon which it would surprise a stranger to see in a few minutes, without hurry or noise or the least disorder, the whole market is filled, and all the boards upon the tressels with cloth, each proprietor standing behind his own piece." The sales then took place, and in less than half an hour the cloth would begin to move off, the clothier himself taking it on his shoulder to the merchant's house. In this way Defoe declares he had seen from £10,000 to £20,000 worth of cloth, and sometimes more, bought and sold "in little more than an hour."

From the time of Charles I., when Leeds sided with the royalists, to the beginning of the present century, no great change in the manners and habits of the people of Leeds appears to have taken place, which period, excepting the civil war itself, full of gloom and turbulence, was on the whole a sleepy, unenterprising, uninquiring time. Trade, with little deviation, ran in its regular and wonted channel; a few principal merchants were acquiring from time to time ample fortunes, and beginning to profit by the improvidence of ancient families around them, in the purchase of estates. There was little of the spirit of adventure, little credit and therefore little risk. The dwellings of the most thriving manufacturers and merchants of Leeds in those days were

little better than the stables of to-day—narrow windows with diamond “quarrels” and stone floors. At night the

—“Rich burgher, whose substantial door,
Cross-barred and bolted fast, feared no assault”—

retired to rest with his windows secured by iron stanchells and every part of his dwelling calculated to stand a siege. The cloth-maker and buyer of Defoe’s time would have trembled to commit himself and his wealth to the frail and flimsy security of sashes and plate-glass. The times were especially favorable to a spirit of moderation and economy.

The first break into this monotony at Leeds, and I believe the first undertaking of the kind in the kingdom, was to render the Aire and the Calder navigable, which was done by the merchants “without calling in the assistance of the nobility and gentry,” and by which means a communication was opened from Leeds and Wakefield to York and Hull, so says Defoe, “that all the woolen manufactures now exported are carried by water to Hull and there shipped for Holland, Bremen, Hamburg and the Baltic.” It is difficult in these days of railroads to conceive of the impediments in the way of commerce and manufactures in these days of the infancy of British industries. The roads around Leeds were sloughs almost impassable by single carts. The carriage of raw wool and manufactured goods was performed on backs of single horses. The occupation of a merchant was toilsome and perilous. On horseback before daybreak and long after nightfall, these hardy sons of trade pursued their labors with spirit and intrepidity amid sloughs, darkness, inclement weather, highwaymen and broken causeways.

In my Bradford and Huddersfield letters I gave a brief description of a parliamentary election early in the present century. Unlike her near neighbors, Leeds never placed much value on Parliamentary representation, and indeed the pious Dr. Whitaker, antiquarian and historian of Leeds, congratulates his fellow-citizens that when Charles I. incorporated the town of Leeds by letter patent, “by a singular

felicity we escaped the inconvenient privilege of sending members to Parliament." As a result of this the good Doctor notes the entire "absence of periodical seasons of popular phrenzy which accompany general elections." Nevertheless, Leeds was once represented in Parliament by A. Bayne, "as creature of Lambert," of whom Whittaker said, "we have little reason to be proud." Whittaker in his history publishes a copy of a letter written July 18, 1654, by this Bayne, which shows, from the following extract, the importance of the cloth trade at that time. "And in all your consultacons let me begg of you to endeavor the promotion of the clothing trade, which, you know, under God, is the greatest meanees of most of your wel beings."

Closing the chapter of Old Leeds, what a contrast is the busy city of to-day, with its handsome public buildings, its magnificent park, its grand charitable institutions, its varied industries and its 320,000 population. Leeds stands on the edge of a rich and vast coal-field. Near it is mined the best iron for the construction of locomotives and all kinds of machinery, and hence have grown up immense locomotive works, shops for the manufacture of spinning machinery; and, indeed, all kinds of metal industries are carried on in Leeds, including several celebrated steam plough works. About thirty firms are engaged in the manufacture of chemicals, and the manufacture of glass bottles, besides an extensive leather trade and several important boot and shoe factories. There is a flax manufactory at Leeds which employs 1,000 persons in one room, and this factory has the capacity of spinning 70,000,000 yards of linen yarn daily.

But free-trade has completely ruined this industry as will be seen from the following statement which I quote from a prominent Englishman (Sir Algeron Borthwick) who knows whereof he speaks: "Englishmen know how great has been the strain of late years on our industries, and I need not cite many instances, but I will just take one. There is the great flax industry of Leeds and of Shrewsbury, which employed 20,000 working men. In the last ten years that

industry has sunk away and perished, owing to foreign competition. The Messrs. Marshall, of Leeds, the largest of that great branch of industry, have stood for the last five years a continuous loss of \$100,000 a year. They had then to consider the question of throwing out of work their 4,000 workmen, and of stopping their mills altogether. They found that the case was so hopeless that they must do it at a further loss to themselves—you will see how the capitalist suffers—of \$600,000. What did they do with the remnant of that capital? They have taken it away out of this country. They have taken it over to Protectionist America, where again they can win large returns by the employment of other than English labor."

Besides all this, Leeds has blanket, canvas, carpet, sacking, and rope manufactories, and a limited trade in worsted goods; also dye-works, paper-mills, boat-builders, marble, glass, earthenware works, breweries and glue-works. The flax mills rank next to those of Belfast. This brief enumeration of the industries of Leeds shows that while it is the greatest cloth town, as indicated in my previous letter, it also has a great variety of other industries, and in this respect it resembles Glasgow more than Bradford, which latter is almost wholly given over to textiles. With coal, iron and limestone beneath it, with a neighborhood on one side in which abounds clay adapted for the manufacture of bricks, fire-bricks, tiles and pottery, with a reputation for cloths, which I have shown extends back for centuries, with a vast manufacturing district on one side and a rich agricultural district on the other, and with a network of railroads extending all over the empire, Leeds may well be put down as one of the most prosperous and progressive manufacturing cities in the British Isles.

XXXIX.

LEEDS—"IN MY EXPERIENCE NEVER."

I have already made a careful comparison of the wages paid in Leeds, in the woolen mills, with those paid in the woolen mills in the United States, and from those figures my readers can easily judge of the condition of the operatives. In the present letter some additional facts about the general social condition of the working classes will be presented, together with the account of a walk round the entire city, and a visit to scores of operatives' and other wage-earners' houses, with a general description of the places in which they live and their social condition. The greater part of this inquiry was conducted in company with one of Her Majesty's Inspectors, kindly detailed by Chief Constable Bower expressly for this purpose, to enable me to make a thorough investigation.

The centre of Leeds is almost wholly occupied by the great warehouses and the principal business houses. Unquestionably the worst part of the city is the Kirkgate Ward, extending eastward beyond Richmond Hill. Here live, huddled together in some of the vilest courts I have ever met with, the poorest laboring classes, the Irish "element," and most of the thieves. So bad had this quarter of the city become that a few years ago the Borough bought three or four of the worst streets, pulled down all the houses, and scattered the inmates. But there is yet great room for improvements. Take "Cherry Tree Court," and, though not a tall man, I had to bend nearly double in order to get through the causeway leading to it. In these courts you find whole families living in one room, the floor of which is of broken paving-stones, containing hardly a vestige of furniture. Poor red-nosed, pinched-faced, shoeless, wretched little children, with hardly a rag on their backs, greet you on all hands. As a rule, I am glad to say, the inmates of

these houses belong to a class of men to be found in nearly all large cities, who do no regular work, but live from hand to mouth by odd jobs and probably squander half their earnings in the grogeries that occupy almost every corner in this part of Leeds. Every effort is being made to improve this melancholy condition of affairs. Model lodging-houses have been erected in the vicinity, and in this way at least many of the single men have been rescued from these polluted dens.

One of these lodging-houses is said to be the largest in the empire, containing, I believe, about 400 lodgers, and is a well-conducted institution. It is far ahead of those found at Bradford. The rooms are kept clean and well ventilated, and a man may live at this establishment for 10s. or \$2 50 a week. He pays 4d. or 6d. a night for his lodgings and has the use of the large kitchen, containing a number of ranges, hot water in abundance and utensils for cooking and serving meals. He, of course, must cook his own victuals, and the day I visited the place a dozen or more burly English laborers and some that were skilled artisans stood round these stoves frying tripe and bacon, scraps of pork and scraps of beef and mutton, slices of bullock's heart and liver. On the table near by, tied up in a clean blue or white or red and white spotted handkerchief, was the other part of the repast, a pound or two of bread. So small are the earnings of these men that they cannot afford to rent a room, but must thus live from day to day, paying each night at a sort of box-office the fourpence or sixpence for the privilege of occupying a room which, I know, in one instance, is capable of accommodating no less than sixty guests. There is also a large dining hall in Kirkgate, erected by subscription, in which is served daily "a large plate of meat, potatoes, vegetables and bread" for eightpence, or sixteen cents. Plate of pudding and gravy twopence. I counted over one hundred, from the little match boy to the industrious mechanic and his wife, enjoying the various cheap dishes at this place Saturday afternoon.

The manufacturing quarters of the city are a grade higher than Kirkgate. In the neighborhood of the iron works the hands live in small houses, consisting of one general room, a scullery, and a couple of bed-rooms, for which they pay at least one seventh, sometimes one-sixth, of their weekly earnings. The actual earnings of a skilled workman rarely reach \$6 25, and seldom ever exceed \$7 50. He lives on the coarsest food; bacon at sixteen cents a pound, bullock's liver or heart at ten cents and twelve cents a pound, potatoes and bread and tea. Cabbage is the only vegetable within his means besides potatoes. After the food has been bought and the groceries and the rent paid, and the club dues and the Burial Society and the Trades Union dues paid, he has hardly anything left to buy clothing. It matters little to the workmen here what the prices of clothes are; he cannot afford to do any more than keep his family shod, and if they are girls keep them in cotton gowns—both of which articles of clothing are no cheaper here than in the United States, excepting possibly in cases (not infrequent) where wooden shoes are worn.

Inspector Thomas W. Wheatley, for over fifteen years connected with the Leeds police force, and for nearly eight years of that time Inspector of Industrial and Reformatory Schools, and whose duty during the whole period of his service was to ascertain the earnings of mill operatives and other artisans, for the use of the courts in assessing what proportion the parents should pay for their children, said that in his eight years' experience the highest average wages he ever met with for skilled labor were to a manager and foreman of a glass bottle works, who received 36s., or, say, \$9, a week and house free—equivalent to about \$11 a week. This man had seven children, age four months, two years, four years, six years, eight years, ten years, and twelve years, respectively. The Inspector's books contain fair samples of what the working classes actually receive; for that is what I construe wages to be, and not the statements of interested parties. I will take a few samples, all

of which have been obtained with sufficient accuracy to be sworn to in court. In each case the statement of the artisan has been corroborated by the employer:

“WILLIAM FOSTER: Felter, cloth-mill; average weekly earnings, 16s., or less than four dollars; wife, two children, age three and seven years; pays 2s. 3d. a week for rent.

“JAMES GILL: Cloth warehouseman; wages 30s., or seven dollars and a half, a week; wife and three children, three, four, and six years of age; pays 5s., or \$1.25, a week rent, and 2s. a week for boy in reformatory.

“WILLIAM PORTER: laborer; weekly earnings 18s., or less than four dollars and a half; wife and one child; paid 3s. 4d., or 83 cents a week for rent.”

Inspector Wheatley says that from his experience of fifteen years he should have no hesitancy in swearing that the average actual earnings of laboring men in Leeds were 18s. a week, or less than four dollars and a half; that they would under the most favorable circumstances not work over fifty weeks in the year.

“JOHN RYDALL: miller; widower, two children; earnings 20s., or less than five dollars a week; lives in lodgings at 13s., or \$3.25 a week; both children in industrial school.

“JAMES WILSON: engine tender; wife and four children; weekly wages 25s., or about six dollars; pays 3s. 6d., or 88 cents, a week rent.

“EMMA MILLER: carpet-maker; two children, nine and sixteen years of age; eldest girl earns, on average, 5s. a week in mills; in full work earns 14s. herself; total less than five dollars; pays 3s. a week rent.

“M. BARRETT: cloth-dresser; wife and four children, age five, six, nine, and twelve years; the eldest child earned 3s. a week; father's average weekly earnings 16s. 9d.; total earnings less than five dollars, with two working.

“PATRICK CHILLS: Glazier: wife and five children, age seven, nine, fourteen, sixteen, and eighteen years; three children working, earning respectively 3s. 6d., 6s. and 8s.; father's earnings uncertain, from 10s. to 20s.; the total

earnings of the entire family rarely exceeding seven dollars and a half, four working; they all lived together in a poor house; rent 3s. 3d. a week.

"THOMAS HORSFANN: Mason; wife and one child; wages 27s., or over six dollars a week; rent 4s."

These are samples, hundreds of which could be given. They were selected at random by the Inspector from his books, and represent the real earnings of the British workman in this thrifty part of England.

"In your fifteen years' experience," I said to Inspector Wheatley, "in which your jurisdiction has extended all over the borough of Leeds, embracing, as it does, 320,000 of the most thrifty industrial population in England, did you ever know the ordinary workingman to own the house in which he lived, and the ground on which it stands? I mean the skilled artisan, the mechanic, the engineer, the carpenter, the mason, and the like."

"If I was on my oath in court, sir," earnestly replied the Inspector, "I should be obliged to answer, in my experience, never!"

XL.

THE NORTHERN COAL AND IRON DISTRICT.

I COME now to a district which in 1880 produced 36,000,000 tons of the 147,000,000 tons of coal produced in the United Kingdom, or one-quarter of all the coal; and over 6,000,000 tons of the 18,000,000 tons of iron ore produced in the United Kingdom in that year, or more than one-third of all the iron ore. The relative importance of this district in its production of pig-iron may be seen from the following statement of the output for 1882, given me this morning by Mr. Edward Williams, president of the Iron and Steel Association of Great Britain:

TOTAL PRODUCTION OF PIG-IRON FOR 1882.

District.	Tons.	District,	Tons.
Cleveland	2,688,650	Northamptonshire,	192,115
Scotland	1,126,000	West and South York- shire	279,253
West Cumberland	1,001,181	Derbyshire and Notts	445,735
South Wales	883,305	Shropshire	
North Wales	48,713	Gloucestershire, Wiltshire,	80,475
South Staffordshire	398,443	etc.	48,000
North Staffordshire	317,117	Total	8,493,287
Lincolnshire	201,561		
Lancashire	782,739		

Within this region, which is full of interest and of economic importance to Americans, is the great northern coal-fields of Durham and Northumberland, the oldest worked mines in England, as yet to-day the most prolific. This area, comprising an exposed coal-field of 460 square miles and a concealed area of 225 square miles, possesses some of the most important coal-seams worked in Great Britain. The rivers Blythe, Tyne and Wear naturally give their names to the three great divisions of the coal-field. As will be seen by the little map which I have drawn to accompany this letter, the Blythe coal-field, the Tyne coal-field, and the Wear coal-field are really one, extending from near Warkworth, at the mouth of the river Coquet, on the north, to near the north bank of the Tees (within six miles of Barnard Castle) on the south—an expanse of nearly fifty miles in length by twenty miles in breadth; its greatest diameter being near the center, along the course of the river Tyne, narrowing in the north after passing the river Blythe. From the Coquet, near Warkworth, to the river Tyne, the North Sea limits the coal-field to the east.

To mine the 35,000,000 tons of coal annually produced in this district, in 1880, 95,000 persons were engaged, making an average of about one ton of coal per day for each man, or 365 tons a year if we include Sunday. Of the 95,000 about 76,500 are employed under ground. Wages have fluctuated in the last twenty years as greatly as the price of

coal, which averaged in London coal markets in 1860 18s. 4d. or \$4.60 a ton, to 30s. 9d. or \$7.70 a ton in 1873, and gradually decreased until the average price for the year 1880 was 14s. 11d., or about \$3.75 a ton. A sliding scale has been adopted by which the price per ton paid the men varies with the market price—a maximum and minimum rate being fixed. So great have been the fluctuations that in the last decade both of these rates have been reached. According to the employer's information the miners, in 1870, were paid 4s. 8d. or \$1.12 a day for an average output of 4.67 tons of coal, and 4s. 8½d. in 1878, or a farthing more, for an average output of 4.02 tons, being a decrease of 16 per cent in the quantity of work done for the same wages. Certain it is that the earnings in this dangerous and disagreeable work do not exceed at the present time, 5s. or \$1.20 a day for a steady day's work. The available coal remaining in this great Northern coal-field is estimated at upward of ten thousand millions of tons. At the present rate of production the supply will last 280 years.

So much for the coal supply of this district. Now for the Cleveland iron mines, which are included in the area I am considering. The existence of an iron ore on the northeastern coast of Yorkshire appears to have been long known; indeed the constant discovery of iron slag on the hills of Cleveland shows that ores were worked in remote antiquity. About thirty years ago local iron-masters began to employ the Cleveland ore to supplement the supply of ores to their furnaces. It answered well and soon it was found that the Cleveland hills were full of iron. Then began that remarkable development of the district which reminds one more of the development of the industrial towns of the United States than of anything in the history of British industry. From a place of 7,000 people in 1851, Middleborough has in thirty years leaped to 60,000, and the whole surrounding district is a marvel of industrial energy. The area of the Cleveland hills containing the deposits of iron ores extend on the northern escarpment from Ormesby, near Middleborough,

to the coast, and southerly to the Eskadale and Rosedale valleys, the workable portion of the ore being found most fully developed in the northwett portion of the area, diminishing both in the thickness of the beds and the quality of the ore in the south and eastern part of the area. The growth of this region has been unparalleled. Commencing with the year 1854, when returns of production first appear, 650,000 tons of ironstone were raised in the Cleveland district. Two years later it had increased to 1,148,488. At home the development of the Lake Superior district is regarded as remarkable, but the following table, which I have compiled from A. P. Swineford's statistics of the Lake Superior mines, or for the Cleveland mines from John Marley's Memoir on Cleveland Ironstone, etc., shows the magnitude and richness of the Cleveland hills even when compared with the Lake Superior Iron Region.

YEARS.	Production in Tons of Iron Ore, Lake Superior District.	Production in Tons of Iron Stone, Cleveland District.
1858.....	Gross Tons. 22,876	Gross Tons. 1,367,395
1859.....	68,832	1,520,842
1860.....	114,401	1,471,319
1861.....	114,258	1,242,514
1862.....	124,169	1,689,966
1863.....	203,055	2,078,806
1864.....	247,059	2,401,890
1865.....	193,758	2,762,359
1866.....	296,713	2,809,061
1867.....	465,504	2,739,039
1868.....	510,522	2,785,307
1869.....	639,097	3,094,678
1870.....	859,507	4,072,888
1871.....	813,984	4,581,901
1872.....	948,553	4,974,950
1873.....	1,195,234	5,617,014
1874.....	935,488	5,614,822
1875.....	910,840	6,121,794
1876.....	993,311	6,562,000
1877.....	1,025,129	6,284,545
1878.....	1,125,093	5,605,639
1879.....	1,414,182	4,750,000
1880.....	1,987,598	6,486,654

Until the year 1873 the number of persons employed in the Cleveland district was not accurately known. That year, according to the report of Her Majesty's Inspectors of Mines, 9,350 men were employed, 6,947 of whom worked underground. The average for each man employed was then 581 tons per year; it now exceeds 800 tons. The total number of hands employed in 1880 was only 7,972, yet nearly two million tons more ore was raised. This, Mr. Edward Williams told me, was largely brought about by the economy of labor in the way of improved machinery, and was hastened on account of the demand for labor in this district, and its consequent high price when extensive operations were begun twenty years ago. The average wages paid here, as in the great northern coal district, fluctuate with the price of iron, 5s. 6d. or \$1.32 per day as a minimum rate, increasing plus 10 per cent plus 15 per cent or plus 20 per cent, or retarding, as iron advances or decreases in price. Mr. Edward Williams agrees with the tariff Commission report in the fact that iron rails are doomed to ultimate disuse, but he says it is no less true that Cleveland has fairly started the manufacture of steel rails from its native iron that are bound to become the cheapest in the world.

XLI.

A VAST MONOPOLY.

I SHOULD hardly be credited in some quarters if I were to say that this immense iron district which I have attempted to describe, is one of the most absolute monopolies in the world. I will therefore merely quote the following from an address of the president of the Iron and Steel Institute of Great Britain:

"The firm of Messrs. Bolckow & Vaughn, who were the pioneers of the Cleveland iron trade, and who now produce

one-third of the total quantity of iron produced in the district, have also taken the lead in the establishment of steel works."

One-third of the amount produced in this district.

What does that mean?

My table shows that it means an amount of iron ore far exceeding the total product of the entire Lake Superior district in 1880.

The fact is, people in the United States have no conception of the vastness of the monopolies in England. A few firms control this entire district; own every acre of it.

What does that mean?

It means the control of an acre of ironstone of 420 square miles, with an average yield per acre of 20,000 tons and estimated contents of five thousand million of tons of iron ore. I have already shown the amount of coal yet in the great adjacent northern coal field to be ten thousand millions of tons, so that there is sufficient fuel in the coal district to smelt the main seam of iron ore in the other.

This district is capable of supplying the world with steel rails for a couple of centuries to come, controlled by a few wealthy men, capable, if the barriers of foreign tariffs were removed, of crushing out the steel interests of every country on the globe, and of then controlling the world's markets and prices. The truth of the monopoly is substantiated by the president of the Iron and Steel Association, of Great Britain and by a visit to the district; the truth of capacity in wealth of coal and iron and economy of manufacture by the best scientists. Comment is not necessary. Let every one judge from the facts I present.

And yet the manager of the firm producing one-third of this immense output calmly sat down with me and unblushingly talked of "the grinding monopolies of the United States preventing the free importation of steel rails," and actually spoke disparagingly of "such an otherwise sensible man" as the Hon. Abram S. Hewitt for his "absurd protection heresies."

It did not seem to occur to him that the iron manufacturers of England are worth millions of pounds, while American manufacturers are worth millions of dollars; the British iron districts are crowded within an area of a hundred square miles, while America's spread over a vast continent, every State producing iron ore; the manufactures of England are controlled, as I have shown in the Cleveland district, by a few enormous capitalists, the annual product of one firm alone exceeding that of the entire Lake Superior district, while American iron and steel industries are scattered over a continent, giving employment and building up towns in the agricultural districts, and making more permanent the progress of the mining States; it is an exception in England to find a situation in which the ore and the coal and the coke and the limestone are separated 100 miles, while in America 1,000 miles very often intervene. From the ore mines of Lake Superior and Missouri to the coal of Pennsylvania is 1,000 miles; Connellsville coke is taken 600 miles to the blast furnaces of Chicago, and 750 miles to the blast furnaces of St. Louis. The average distance over which all domestic iron ore which is consumed in the blast furnaces of the United States is transported is not less than 400 miles, and the average distance over which the fuel used to smelt it is transported is not less than 200 miles. And yet here, within a rectangle of 75 miles by 30 miles and a square of 40 miles, is produced over one-third of England's annual ore supply and one-fifth of her annual coal supply.

XLII.

ENGLAND'S COAL AND IRON FIELDS.

The following map, which I have drawn to a scale of thirty miles to the inch, shows at a glance the proximity of the great Northumberland and Durham coal fields and iron

mines to the Cleveland district ironstone mines, together with the location of thirty of the principal towns. When the limited area covered by this map is considered it brings out more forcibly than words the geographical advantages enjoyed by England in the manufacture of iron. The important places of this region contain nearly 900,000 inhabitants, and, I suppose, taking the rural and urban districts together, the population would far exceed a million. It may justly be called one of Great Britain's great mining, manufacturing and shipping districts.

	Population.		Population.
Brinkburn.....	5,000	Redcar.....	3,000
Bellingham.....	5,000	Marske.....	2,000
Morpeth.....	4,500	Saltburn.....	2,000
Blyth.....	2,000	Guisborough.....	7,000
Tynemouth.....	45,000	Middlesborough.....	60,000
North Shields.....	10,000	Stockton.....	42,000
South Shields.....	58,000	South Stockton.....	11,000
Newcastle.....	150,000	Darlington.....	36,000
Gateshead.....	68,000	Rosedale.....	4,000
Sunderland.....	120,000	Whitby.....	14,000
Durham.....	15,000	Thirsk.....	4,000
Allenhead.....	4,000	Bishop-Auckland.....	10,000
Stanhope.....	4,000	Barnard Castle.....	5,000
Hartlepool.....	17,000	Scarborough.....	30,000
West Hartlepool.....	28,000		
Weardale.....	5,000	Total.....	870,500

The statistics I have already given sufficiently attest the importance of the region embraced in the above map. Several of the cities mentioned in it, and at least three of the rivers, the Tyne, the Wear and the Tees, are important enough for a special letter. In concluding this general account, I shall attempt a brief description of by no means the least important feature of the region covered by the map—the ports of the Tyne, the Wear and the Tees.

Beginning at Newcastle, it has been aptly said that for six miles along the Tyne there is absolutely not a break in the connected links of industry. The finest view of Newcastle can be obtained on the high bridge across the Tyne. Stand-

ing on this magnificent structure, on the right is Gateshead, picturesque in stern defiance of the gloom and grime of its waterside buildings, with tall chimneys in the distance rearing their heights out of acres of huddled and rickety tenements; every chimney contributing something to the fog



of dark vapor that blows away to the southward. On the left is Newcastle, says one enthusiastic eye-witness of this busy scene, the famous lantern-tower of its cathedral church conspicuous above the roofs, with a river-flanking of tall, handsome, modern buildings, spacious offices, gradually softening down near Sandgate into ancient relics of the bor-

ough—gable-roofed houses with old-fashioned red tiles—the whole overlooking a fine quay, on which from the bridge you may see active groups of merchants, 'Change men, clerks, laborers, mixed up with bales of merchandise, railway sleepers, timber, casks of American apples, cases of provisions, cheeses, and grindstones and herds of cattle. Flowing beneath, mud-colored and sometimes with a current that gurgles harshly around the massive piers, is the river, alive with craft of all kinds, screw-steamers, tugs screaming and darting to and fro, or toiling along with a string of barges in their wake, steamers newly launched, tall, gaunt and bare, in spite of their ugly livery of slate and red, colliers as black as the faces of the crew, who lounge around the galleries, and large sailing ships abreast of the huge grain warehouses. Such is the scene on the busiest of these rivers.

"To do the Wear justice, in such a light, in such an atmosphere, on such a day as I saw it," said a gentleman who was there in the same month as I was, "requires the brush of a Turner." Figure a slate-colored river reflecting a long, tremorless beam of light from the red and rayless sun shining luridly through the smoke and fog that overhang the sky in the west; shores on either hand flanked with factories, yards, works with furnaces roaring, gigantic outlines of ships looming upon the stocks, huge vessels newly launched lying abreast of the yards, lines of starths pouring hundreds of tons of coal into the bottoms of steamers and sailing colliers, rows of coalmen at anchor in the stream, tugs towing ships to sea, or with iron shells of steamers in their wake, with always the chimneys of iron works, breweries, bottle works, cement works, saw mills, pouring their coils of smoke along and producing the very fittest atmospheric effects in the world in which to survey this striking scene of human industry. Such is the Wear near Sunderland.

XLIII.

SUNDERLAND AND HARTLEPOOL.

Said a citizen of Sunderland: "At the present moment our town is unsurpassed on the northeast coast as a ship-building port. Vessels 400 feet long have already been launched on the Wear, and there is nothing to hinder vessels of the largest size being turned out from many of our yards here. Before long I believe Sunderland will have the distinction of being the largest ship-building port in the world as regards both size and number of vessels."

According to a gentleman who had lived in Sunderland all his life, the town as it now exists is the creation of the three great industries of the northeastern coast—coal, iron and ship-building. It was originally three small places—Sunderland-by-the-Sea, on the south; Monk Wearmouth, on the north, and Bishop Wearmouth, on the south side of the river, a mile up. They are now one town, with a diameter of two miles in any direction, and with a population of 120,000. Sunderland is surrounded by the Durham Colliery villages, and is the great outlet for its coal. I spent the best part of one day there. It has the narrowest streets of all towns I know of, excepting, perhaps, Great Yarmouth, where the people shake hands across the street from the windows of the upper floors. The people of Sunderland, it is said, are constantly engaged in trying to push one another out of the road; in fact, life in Sunderland, judging from my own experience as well as that of others, is made up of a very great deal of shoving and pushing.

Saturday nights, they say, no other town in the Kingdom can show such crowded streets. Pitmen, mechanics and the working classes of Durham generally are on the streets, and as the dense streams surge uphill or down, salutations are exchanged in hoarse shouts and accents, which defy the pen. A description of the Music Hall, at Sunderland, is even more

amusing and characteristic than the picture I gave of the "Theatre Royal, Coatbridge." It is narrow, like the streets, garnished with gilt, and the wooden divisions painted red. In these little boxes, it is said, the grocer-boy and the draper's assistant, with his pocket full of penny Havanas, can squeeze the hand of his "Soosan" without exciting the ribaldry of the gallery, which is generally made up wholly of boys with blackened noses and open mouths. Dingy gray and brown coats, topped with "wideawakes" and "billycocks," beneath the brims of which peep clay pipes, comprise the pit assemblage. When the lady in tights sang "O, H'Im Fond of a Squeeze on the Sly," and the Sunderland audience were pleased, they showed it not in hilarious and unseemly applause, but as the singer withdrew, matches were struck in all directions and the pit was again enveloped in smoke. Such is Saturday night in an English mining town.

In Hartlepool on the north side of the Tees, besides ship-building are many rolling mills, iron works, blast furnaces, saw-mills, cement works, potteries, bottle works, marine engine works, and creosoting works, some belonging to companies and some to private firms. The salt industry of Bell Brothers and others has a great future, I was told. Thirty-five years ago West Hartlepool had no existence; since then a flourishing town, teeming with population, has arisen upon a barren tract of coast land, and a port has been created "second to none for its docks, situation and accessibility," and with steamers running to Hamburg, Gothenburg, New York, Boston and London.

I will close with a view of Middlesborough and the Tees from the summit of a blast-furnace, a gigantic structure eighty feet high, which seem to abound on all sides. It is graphically described by one who ventured up this giddy height. From such an eminence you look forth upon a panorama or map of scientific wonders. Far below was the broad river coiling steadily seaward; on the right is Middlesborough, scores of tall chimneys rising out of the houses,

shipyards on the water's edge crowded with fabrics, a portion of the famous works which I have said produced one-third of the iron ore of this region, darkening and deepening the massive conformation of the district with their rugged, black, massive grouping, every outline of which seemed to be tinged with the scarlet of furiously blown furnaces, steamers alongside the wharves receiving their ponderous freights of pig-iron, flames breaking from tower-like structures in the distance, and a horizon of chimneys, always chimneys, intercepted by the spars and yards of ships in the docks. In another direction on this side were the Anderson Foundry Works, and beyond them, on the left, across the water, another portion of Middlesborough, with spires, chimneys, wharves, flour mills, rolling mills in the misty distance, St. Hilda's Church towering above the roofs, and spots of color between furnished by the painted funnels of tugs and cargo-boats. And all this activity and wealth within the area described in our map. Well may Americans marvel at the economic greatness of England. In this letter I have not only endeavored to give a bird's-eye view of the greatest coal and iron region in the world from an economic standpoint, but alike to picture its three great rivers and the centres of industrial energy that its geographical and geological richness has brought into existence—and the greater part within the memory of the present generation.

XLIV.

MIDDLESBOROUGH—AN AMERICAN GROWTH.

A few days ago at a dinner of the directors of the North Eastern Railroad Company at York, I had the pleasure of meeting among other gentlemen Sir Joseph W. Pease, M. P. One of the guests had told me that part of Sir Joseph's estate was where Middlesborough now stood, and as I was then on

my way to the most important centre of iron mining and steel and iron manufacture in the world, I asked Sir Joseph some questions about the origin of Middlesborough. He told me the whole history of Middlesborough was written in the lives of three or four men, one of whom was his father, the late Mr. Joseph Pease. Within the recollection of men now living the first shipment of coal took place.

Said Sir Joseph, with much earnestness: "In the Christmas of 1832 John Vaughn, Henry Bolckow, and Joseph Pease met in a little room I know well in Pilgrim street, Newcastle. I doubt if one of them supposed that that which they agreed to do was to make Middlesborough—then a marsh by the side of a river—a port, a mart of nations, and for a time at least the most important iron and steel centre in the world."

There are men living who can go back to the days when cattle housed where the town now stands, and when the solitude of this part of the Tees was only broken by gray-headed seals and shrimping women. To-day Middlesborough has to do with "pig" puddlers and a growing population, the latter now having reached 60,000. The venerable and venerated antiquity of the place is wisely conserved in the neighboring town of Whitby, which in the midst as it were of this surprising modernization boasts an ancient abbey built in 1130.—I can not venture further into the history of Middlesborough. To make these letters what they claim to be, an industrial series, I must hasten on to a bird's-eye view of the British coal and iron and steel trade, its present condition and tendency.

After all, Middlesborough is but a new town—a very new town for England. Though it has 60,000 inhabitants, it has not a directory. The whole history of the district is recent and there has really been so much modest silence about it that a stranger may be excused for singing its praises. The town seems to be literally surrounded with mountains of slag, and only about 45,000,000 tons of iron raised so far. What will it be when the 5,000,000,000 tons yet remaining is

raised and smelted by the aid of the 10,000,000,000 tons of coal in the adjacent great northern coal-field? To-day, says one writer, describing Middlesborough, the whole place seems surrounded by the refuse of smelted ironstone. And he is right—immensely long embankments of it, ravines and gorges formed of it, such as you may see in a country of tall hills; acres of land over which the sea or river recently washed, now reclaimed, cultivated, built on; here a vast area of buildings erected by the new North-Eastern Steel Works Company; there the Britannia Rolling Mills, barely visible in the thunder-storm of smoke—flashed up now and again with the darting of furnace fires—that rolls from their numberless chimneys; in another place more dense smoke, fringed with volumes of white steam, with red flames restlessly playing among the piebald folds, and everywhere slag—slag as high as it can be piled, slag defining the river's winding, slag like huge lumps of brown rock, with locomotives rushing along its levelled tops; slag in steep cliffs, covered with great red palpitating patches of it fresh from the furnaces, and just now tipped over by the engines and bogies, which all day long, and all night too, are rattling and screeching to and fro in discharge of this duty. And away in the hazy distance one can see the outline of the Cleveland Hills, the iron acclivities from whose side Middlesborough and its wonderful industries have sprung.

I have been over the Cambria, the Edgar Thomson, and the great Chicago Bessemer Steel Mills, but the works at Middlesborough all exceed them. I borrow the following description of a scene at Bolckow's Works; it is the most graphic I ever read:

My memory recalls an entrance guarded by a policeman of a severer aspect than any that I can remember encountering in a London constable; a vast surface of railway metals, over which one must jump with the agility of a fawn to escape the numerous locomotives which rush to and fro in shoals; an immense interior, full of huge roaring flames of sun-bright brilliancy—of fires rushing from the converters

under the furious tempests of wind driven into them by mighty engines, scattering immense showers of sparks, licking the iron heights of the building with their serpentine tongues, sometimes of a deep scarlet hue, sometimes of a beautiful dazzling green, sometimes so white, blinding and ardent that in the enormous gushes of effulgence the numerous electric sparks which illuminate the building faint and glimmer like mere glow-worms; a floor covered with railways, along which little locomotives—mere toy engines in size—go pushing or dragging wagons, or bogies, or trucks, or whatever their name may be, full of molten palpitating metal, or gigantic lumps of red-hot steel; on high, great bell-shaped retorts swinging slowly, and as they swing spilling torrents of white-hot slag amid volumes of smoke and steam and avalanches of sparks; and ever and anon stooping their brows, as it might appear, in their stately, solemn vibration to expose their interior of fluid steel, the terrific light of which is so blinding that the pained eye droops before the volcanic fires as it would before the noon-tide sun.

XLV.

MIDDLESBOROUGH—AMONG THE IRON WORKERS.

“Jump into my carriage,” said Dr. Hedley, one of the leading surgeons and physicians of Middlesborough, “and I will show you the town and some of my patients, about twenty of those I shall visit this afternoon being workmen.”

I thanked the Doctor cordially for his kindness, and we were soon at the door of the first house. Middlesborough, in some regards, is not unlike an American city, being newly built and the streets running at right angles. There are few really fine buildings and no handsome shops. The work-people, comprising almost the entire population of the city, live in straight rows of chocolate-colored brick houses, built with painful regularity. Some of these rows are larger than

others, but rows they are, and chocolate-colored they are, all the same for that. The streets look black and are entirely destitute of trees. The first house we entered was that of a man employed in the chemical works. His wife was just recovering from a long illness. They had six children, making in all a family of eight. The house contained one general room, a scullery, and two small bed-rooms up-stairs. On the clean red tile floor of the general room was a mat and near the white hearth a rag hearth-rug, making a neat and cosey contrast with the well-blacked stove and cheerful fire. Her husband, the woman told us, had worked hard at the neighboring chemical works, and was a sober, industrious man, but of course they had not saved anything. His wages amounted to £1 or \$5 one week, and 30s. or \$7.50 the next, making an average per week, if he lost no time, of 25s. or about \$6.25. He was a skilled workman.

The next place was that of an Irish family. Though it was a cold day, there was no fire in the general room and hardly any furniture. On the wall was a common print of President Garfield in his general's uniform, draped with the Stars and Stripes, a couple of prints representing epochs in the life of the Prodigal Son, and a fair engraving of the Deluge. A few canaries in a large wooden cage were the only occupants of the room, whitch was cold, desolate and depressing. In all I visited about twenty of the work-people's cottages. Some were very cosey and others almost like pig-sties. The place being newly built, and all the house letting for single families, and the operatives of all kinds earning very fair wages, at one time even very high wages for England, there was no need for wretchedness and squalor, where the people were sober and industrious.

I call to mind one house which was particularly comfortable, and both Dr. Hedley and myself sat and chatted with the occupants for fifteen minutes. True, the house was on the general-room-two-bed-room-and-scullery plan, but for all that there was such a general air of home-comfort in the high-backed, well-cushioned arm-chairs, the glowing fire

crackling in the blackest of stoves and whitest of hearths, the cheerful colored prints from *The Illustrated London News* and *Graphic* neatly framed, the family Bible on the little centre table, the green foliage of the plants in the window, the bright brass candlesticks and the glass ornaments on the high black mantel, the housewife in her neat gown busy at needle work, and the snowy anti-macassars on the rather upright and stiff sofa, demonstrated how much comfort could be got out of these houses with the right kind of wife.

"It is a pity," said the Doctor as we bade the occupants of the house good-day, "that so many women are utterly neglectful of their husband's comfort. With a tempting arm-chair at his own hearth, and a neat wife, a man enjoys his pipe and pint of beer at home better than at the public house."

In this trip I made the most careful inquiries in regard to the actual earnings of the iron-workers, and found that the average earnings of "slaggers" was 4s. 4d., or \$1.04 a day; of mine-fillers 4s. 8d., or \$1.12; of "charges" 5s. 3d. to 5s. 6d., or about \$1.30 per day, and "keepers" 6s. 6d. to 7s., or \$1.50 per day. These figures are absolutely trustworthy, and were corroborated in every case, and taken down in the presence of Dr. Hedley. Laborers are paid in Middlesborough 3s. to 3s. 2d., or about 80 cents per day; but I found several laboring men who said they only received 2s. 8d., or 64 cents per day. House rents vary from as low as 2s. 6d. a week to 5s. and some of the better houses 7s. 6d. a week. The latter houses are occupied by foremen and men earning say \$7.50 a week, and who perhaps have one or more children employed in the neighboring works or factories. Men working in the Bessemer pits are paid from 5s. 6d. to 6s., or about \$1.50 per day.

The shops in Middlesborough are of a cheap order and the goods displayed mostly such as attract working-people. Wednesday is half-holiday and most of the tradesmen put up their shutters and amuse themselves in some way, but

just how I don't know. There is in the evening the "Oxford Palace Variety Hall," with a young lady who will sing "Oh Isn't it Nice to Make Believe!" or the "Theatre Royal," with the drama of "Taken from Life," and, on swell occasions, even Madame Rôze at the Temperance Hall, but such a prima donna is a rare treat. The windows of some of the stationers' and book-sellers' shops remind one of the days of the old Catnach press, when hoarse-voiced ruffians bawled the "last dying speech and confession" of the culprit at the foot of the gallows before the poor wretch's life was extinguished; when the "last tragedy" was sold on the street corner in a dodger of twelve by eight, and when the news was not infrequently sung in doggerel on the street corner. In these shops the "Bradford Chimney Calamity," the "Hull Murder," the "Hounslow Tragedy," in verse, may be bought for a half-penny, while the windows are filled with the cheapest and vilest of literature.

The members of the Town Council have an odd way of thanking voters for their support at elections, and one that might offend the "free-born citizen of America." At any rate few American Aldermen would care to paste a placard, three feet by two, on every house in a long row, in an American city, as is not infrequently done at Middlesborough; and in this way I read that that Mr. Raylton Dixon "returns his most hearty thanks for the support of the free-holders of Middlesborough at the recent borough election," etc. Trains run through the heart of the town. There is a good deal of drunkenness; some years 500 and even 600 persons being arrested for this offense, exceeding in this gloomy pre-eminence Bradford, with 120,000 more population. Wife-beating and assaults on women are every-day crimes, and a morning spent in the police court revealed some of the most brutalized men and women I ever met with. I was astonished at the light sentences for beating and maiming women.

The public houses and beer-shops dispense beer and gin to parents week-days, and after sending the father reeling home on Saturday night, give candy to the children on Sun-

day. An enormous placard, with an elephant, outside one of these gin-mills, says: "Jumbo just arrived from America; come and see him; no charge," and when the youngster goes in he finds a model of Jumbo, from whose mouth candy drops. Some of these beer-shops have "Cetewayo" giving away "Zulu gifts;" others have monkeys who serve free candy, and children thus become familiarized with drinking and its attendant vices.

XLVI.

THE IRON AND STEEL TRADE OF ENGLAND.

LAST year was as gloomy and unprofitable for the iron and steel of free trade Great Britain as it was for this trade in protection America. The output of coal and iron ore has diminished considerably, but to what extent I am unable to say, as the official figures are not completed. The total quantity of pig-iron during 1884 was 7,528,966 tons, against 8,490,224 in the preceding year, a decrease of nearly one million tons. The total production of puddled bar was 2,237,535 tons, against 2,730,504 in 1883, a decrease of nearly half a million tons. The total production of Bessemer steel ingots amounted to 1,299,516 tons, against a total of 1,553,380 tons, a decrease of more than a quarter of a million of tons, the greatest decrease that has occurred in any one year of the trade. The production of steel rail fell from 1,097,174 tons in 1883 to 784,968 tons in 1884, a decrease of over 312,000 tons. But two branches of the coal and iron and steel industries show an increase—that of open-hearth steel (an increase of 6,465 tons over 1883), and that of tin-plate (the quantity produced in 1884 being larger than that of any previous year). The total exports of iron and steel from the United Kingdom in 1884 amounted to 3,496,352 tons, which is 546,956 tons under the export of the preceding year and about 650,000 tons under those of 1882.

The two principal causes for this decline is the sudden stoppage in building railroads and ships. Jan. 1, 1882, the tonnage of ships in Great Britain in course of construction or contracted for was 1,264,603 tons. Jan. 1, 1885, there was only 373,898 tons. Can any change in any protection country be more sudden and more disastrous than this?

The simple fact is, unless some avenue for using iron and steel be found the output must be curtailed, at any rate in the iron and steel exporting countries. Take for example steel rail making; in 1883 the production of steel rails stood as follows:

Countries.	Tons.	Countries.	Tons.
United States.....	1,243,925	Russia	230,000
United Kingdom.....	1,097,174	Belgium.....	173,000
Germany.....	505,123	Austria—Hungary	120,000
France.....	381,178		
		Total for world.....	3,760,410

Does any one ever pause to think of the world's consuming powers? In 1882 the total length of railways amounted to 247,529 miles, half of which mileage was in the United States. It is assumed that including sidings, double roads, etc., there are in the world 325,000 miles of single track, representing 35,000,000 tons of rails in use at the present time. If this was all iron, with a life of ten years, 3,500,000 tons of rail per annum would be needed for relaying, while in steel, competent authorities say one-half the quantity, or 1,750,000 tons would be required.

Without regarding the above as anything but an approximation to the truth, the meaning is clear, to use the words of Mr. Bell, the President of the British Iron Trade Association, that "it is even now open for consideration whether a diminishing demand for renewals is not already being felt."

The lesson all these facts should convey to intelligent Americans, of whatever party and of whatever economic faith, is that with half the track of the world the United States has half the renewals—estimated on a steel basis at 875,000 tons—and that at least for some time to come no

other country will require more steel for railway extension than the United States. Our home market in this industry—equal to that of all the rest of the world—would seem a sufficient “world’s market” for us just at present, and probably as much as we are likely to obtain.

If I were to be asked to give a brief account of the coal and iron and steel industries of England as they were at the close of 1884, I would reply as follows: To begin with. Great Britain produced about 160,000,000 tons of coal. Of this amount 21,000,000 tons were mined in Scotland from coal fields that in one shape and another straggle from Ardrossan and Girvan on the west coast of Kilmarnock and Leith on the east coast; the great northern coal fields of Northumberland and Durham supply 37,000,000 tons; the Lancashire coal fields 20,000,000 tons; Yorkshire, 19,000,000, tons; the Derbyshire coal fields, including a part of Nottinghamshire, 14,000,000; Staffordshire, 14,000,000, and South Wales and Monmouthshire, 25,000,000 tons. Here in seven great coal districts I have accounted in round figures for 150,000,000 tons out of 160,000,000 tons of annual product. The remainder is scattered in a dozen different counties.

What becomes of this enormous output of coal?

England’s continental neighbors are glad to take no inconsiderable part of it. France is the best customer, sometimes buying 4,500,000 tons annually; Scandinavia takes 3,000,000; Germany and Italy come next, each demanding about 2,500,000 tons; Holland taking 500,000 tons, and so on until nearly 25,000,000 tons of the total output are sent abroad. Of the remainder about 18,000,000 are used in pig-iron manufacture alone, as against less than 8,000,000 tons in the United States. In 1883, 515,000 hands were employed in mining coal in the United Kingdom, 200,000 in the United States, 208,000 in Germany, 160,000 in France, and 104,000 in Belgium. Much of the wealth of England comes from these seven great coal districts.

Fifty years have produced a great change in the character of the minerals employed in the iron and steel work of

Great Britain. The Derbyshire, the Glamorganshire, the Durham, and the South Staffordshire districts then furnished the ore. The Cleveland, Northamptonshire, and Lincolnshire iron-stone, now forming half the total ore product of England, in 1830 found its way into about 5,000 tons of iron, as against over 3,000,000 tons in 1883. In the twenty years ending 1883 the product of what may now be termed the five principal ore-producing districts increased 8,738,014 tons, while the product in the four districts already named has decreased 1,600,000 tons in that period. The Cleveland and the Barrow districts—the former producing 6,500,000 tons, and the latter nearly 3,000,000—are in the front rank, followed by North Staffordshire with 1,750,000 tons, Northamptonshire with 1,300,000 tons, and Lincolnshire with 1,100,000 tons. Here, if we include Scotland (2,250,000 tons), we have accounted for nearly 16,000,000 tons of the 17,500,000 tons of iron ore produced in England in 1883. Add to this about 3,000,000 tons imported, mostly from Spain and Italy, and you have 20,500,000 tons of ore, which for several years prior to 1884 Great Britain has consumed.

The Bessemer pig-iron, aggregating in 1884 to something over 2,500,000 tons, all comes from the three Bessemer steel districts—Barrow, Cleveland, and South Wales. South Staffordshire still makes about 300,000 tons of forge and foundry iron, and Derbyshire produces from 375,000 to 400,000 tons; North Staffordshire, 200,000 tons; South Wales about 250,000, and so on. Not only is the Cleveland district first in Bessemer pig, but also in forge and foundry iron, the output in 1884 exceeding 1,714,000 tons. Scotland produces 1,000,000 tons of pig annually. Here I have accounted for about 6,350,000 tons of the total pig-iron product of the United Kingdom, which aggregated last year about 7,500,000 tons.

South Staffordshire, in 1884, led in the production of manufactured iron, though the preceding year the new steel district of Cleveland took precedence, producing that year nearly 800,000 tons of puddled bar, against about 720,000 for

South Staffordshire. But the iron district in the less prosperous year of 1884 did better than the steel district, the latter falling in its productions 285,000 tons, and the former only 62,000 tons. These two districts make over half the puddled bar produced in the kingdom, the output last year being for the two districts 1,164,000 tons, and for the kingdom 2,237,535 tons. Lancashire comes next in importance, Scotland in 1884 fourth, South and West Yorkshire fifth, North Staffordshire sixth, and South Wales seventh. In these seven districts we have about 2,100,000 tons out of the 2,237,535 tons, the total product of last year.

When Sir Henry Bessemer invented his process of steel-making Sheffield was the seat of the trade in England. Tradition had done much for Sheffield, and at first their seemed to be no particular reason for changing. The pig-iron used in the Bessemer process was almost exclusively the product of the Cumberland and the Lancashire mines, and hence not far from the center of the steel industry. No such revolution in the cost of steel rails had been made, and it was supposed that remelting the pig-iron for converters was necessary. Soon the demand for steel rails led to still further economy of force, and it was discovered that the iron could be run direct from the blast furnaces into the converters. The new steel works had to be built where the pig-iron was made, and rail-mills were established in mining districts near the coast. This gave the first impetus to such towns as Barrow and Middlesboro.

These two districts produced last year about 706,000 tons of Bessemer steel ingots, against 206,000 tons for the Sheffield district. In steel rails they produced 431,000 tons, against 46,326 for Sheffield. The production of steel rails in England in 1884, diminished by 312,206 tons, Sheffield suffering more than any other district, the production suddenly falling from 310,000 in 1882, to 46,326 in 1884. Of the twenty-eight converters in this district, twelve are reported as out of work, whereas, in the other three districts (I include South Wales) out of sixty-two converters only four-

teen are out of work. Glamorganshire and Monmouthshire in Wales, were the chief seats of the iron-rail trade. The cheapness of the labor, excellence of the coal, and convenience of the three ports—Cardiff, Newport, and Swansea—for importing and exporting the finished product enabled the manufacturers there to produce rails probably more economically than was done in any other district in the world, although two-thirds of the pig-iron used was made from imported ore. When the change came from iron to steel some of the South Wales establishments sacrificed capital and plants.

But most of the Welsh iron masters, rather than make an entire sacrifice of their capital, changed from iron to steel, and the rapid development of the Bilbao mines has afforded most valuable aid. To-day, more steel rails are produced in South Wales than in any other district, the product in 1883, reaching 411,000 tons. Indeed, out of the 1,300,000 (in round figures) tons of Bessemer steel ingots produced in England in 1884, 1,000,000 were the product of these sea-coast districts—Middlesboro, Barrow, and South Wales.

As we have seen in the opening of this letter two branches only of the iron and steel industries of Great Britain increased in 1884, and all the others decreased. The production of open-hearth steel ingots has steadily increased since 1879, when the production aggregated 175,000 tons, against 455,000 tons in 1884. The open-hearth process between 1876 and 1882, made greater progress in England than the Bessemer, the production of the former increasing 240 per cent, and the latter 209 per cent. Mr. I. Lowthian Bell is of the opinion that 7s. 6d. (\$1.80) per ton will cover in Great Britain, the expense of the additional labor, and fuel in the open-hearth process as compared with the Bessemer, as both are carried on at the present moment. In speaking of this Mr. Bell further said:

“In cases where the steel has to be exposed to great strain, either in preparing it for its future application, or when so applied—engineers not infrequently stipulate for open-hearth

steel being employed. At the same time I have personally met innumerable instances in which Bessemer steel, in both the respects referred to, left nothing to be desired."

Open-hearth steel is now produced in twelve different counties. The principal seat of the trade is, however, the County of Lanark, where in the immediate neighborhood of Glasgow, there are now seven works in operation. Scotland and South Wales produce over 255,000 tons of open-hearth steel, which is more than half the entire product of the kingdom. The steel is mainly worked up into steel-plates and angles, and finished steel of all kinds. Between 1880 and 1884 inclusive, there has been an increase of twenty-two firms, fifty-three furnaces, and 211,000 tons of ingots.

The increase in the tin-plate industry of England at a time when the iron and steel industry—with the single exception of the open-hearth steel branch—is tending downward, is largely due to the folly of the United States in not putting a sufficient duty on tin-plate. Glamorganshire and Carmarthenshire, in Wales, are the chief centers of the trade. Outside of this district there are but sixteen works—four in Gloucestershire, seven in Staffordshire, three in Worcestershire, and two in Scotland. Between 1876 and 1883, the production of tin-plate has increased from 2,815,000 to 6,115,000 boxes, or nearly 120 per cent. More than half this entire product is annually sent to the United States. The average value of this tin-plate in England, is about \$5 per box, and as 3,755,707 boxes were imported in 1883, we paid England \$18,778,535 for what we ought to have made at home. How much longer is a mistaken policy, nay, worse, a mistaken decision of the Treasury Department to thus enrich South Wales at the expense of the workmen of the United States, who stand ready to furnish our home market with this useful article at a cost that in a few years after the industry is firmly established will not exceed that now paid for the imported article?

We have seen from these facts something of the tendency as well as of the extent of the British iron and steel indus-

tries. New inventions, new processes, and new freaks of trade have left some districts to solitude and decay, and in a year of great depression continued to develop others. As the inventions of Watts, Hargreaves, and Arkwright took the textile industries from the southwestern counties and the eastern counties to the coal fields of the north, so have the inventions of Bessemer, Seaman, Gilchrist, and others drifted the iron and steel industry from the districts around Birmingham and Sheffield, and other inland points to the towns on the northeastern and northwestern coast of England and southern coast of Wales. In this way do industries shift to those spots where they are pursued under conditions representing the greatest returns for the least expenditure of labor.

But will the iron and steel industry remain in these sea-coast towns? Already an element is entering iron manufacture which may revivify the old inland districts, and which makes it possible for places like Western Germany, Westphalia, and Belgium to compete with these English coast districts in the manufacture of steel. I refer of course to the adoption of the basic process, in which we start with a quality of iron not much if any dearer than forge iron. If this basic process, which is just now attracting considerable attention in the United States and here, is all that is claimed for it, districts without any ores suitable for the acid process and so far distant from a seaport that the carriage of the ore from the ship would forbid its use, will be greatly benefited. Indeed, Mr. Bell himself says on this subject:

“Great Britain, while still possessing some advantages over European nations in this new process in relation to its export trade, has had this advantage materially lessened by the introduction of the basic process. So much so indeed, that it is in some instances questionable whether the cheaper labor in the steel processes themselves may not place the two in a position of equality when they meet each other in neutral markets. Such certainly appears to have been the case, even when the higher price of the pig-iron required in

the acid process was included, for certain it is that as regards the dearer kinds of steel, Belgium and Westphalia have been sending considerable quantities for the use of English railways."

XLVII.*

LYE WASTE—A DESOLATE REGION.

The most startling account of the degradation of a branch of English labor comes from the Black country, a region which I shall not reach for three or four weeks. The facts, however, which I shall present in advance of going there are from the most trustworthy source and were actually witnessed a few days ago. It takes one back to the days before Parliamentary interference compelled the white slave-drivers of the manufacturing districts of England to stop using women as beasts of burden in the coal-pits of this same region. I had expected to find poverty and distress and squalid misery in these great centers of industry, for we have that at home in a land where the laborer is not obliged to work for 10 or 12 shillings a week. I did not expect to read such a recital of man's greed as one that has just been made public as "a simple narrative of truth" from the Black Country.

It appears that to-day, in spite of "Factory Act" and "School Board," thousands of females, old and young, mothers and daughters, with their little children by their sides, toil by day and by night, in a locality about seven miles from the great Free Trade city of Birmingham—the home of Bright and Chamberlain. In this gloomy district about 24,000 people are engaged in making nails and rivets. If they were men and boys the lowness of the wages would

* This letter was written from Edinburgh before I visited the Black Country.

not seem so bad. But this account brings out the fact that sixteen thousand females are engaged day after day in the occupation. They are not all mature women; daughters work by the side of mothers—daughters who, in their tender years, ought to be at home, if they have any home, or in bed, instead of working their weary arms in shaping, in the still small hours of the morning, molten iron into the form of nails. Here is the picture drawn by a writer in the *London Standard* who actually witnessed it two or three nights ago:

In the middle of a shed which adjoins a squalid-looking house there is a whole family at work in the production of these nails; father, mother sons and daughters—daughters, too, very young in years, but with that sad look of premature age which is always to be noticed in the faces of child-workers. The gayety of youth, its freshness and its gentleness, seem to be crushed out of them. In the center of the shed, with its raftered ceiling—a bleak and wretched building through the walls of which the wind readily finds its way—there is a “hearth,” fed by “gledes” or breezes. Probably there is a girl or woman blowing at the bellows, while the strips of iron from which the nails are made become molten.

To make this still more forcible, here is an actual case:

In one of these forges was a mother and several children. The mother was a woman probably forty years of age; her youngest daughter—a flaxen-haired girl with a sweet and winsome face—was certainly not more than twelve years of age. By the side of the hearth there was what is technically called the “Oliver”—a barrel-like construction on the top of which is fixed the stamp of the particular pattern and size of the nail required to be made. The workmen and work-women, by means of a wooden treadle—an industrial treadmill it ought more strictly to be called—shoot out the nails from the slot in which they are fixed. They have previously hammered the top of the incandescent metal with masculine firmness. so as to form the head of the nail.

So inured do these poor women and girls become to this work that it is said they seem to work with more vigor than the men—very often indeed, they support their husbands and their fathers, who may have fallen into drunken habits. But the first question that will naturally be asked, by those who demand cheap goods even at this fearful degradation of woman, is, How much can they earn? Again I quote from the man who witnessed the spectacle:

The remuneration they receive is incredibly small. It is no unusual thing—on the contrary, it is rather the usual custom—for a family of three or four persons, after working something like fourteen hours a day, to earn £1 (\$5) in a week. But out of this money there has to be deducted 1s. 3d. for carriage to convey the nails to the “gaffers,” as they are termed in the district; then there is allowance to be made for fuel and the repairing of the machinery, which reduces the £1 to about 16s. 9d. (\$4 18) for three people—for three people who have commenced to work every morning at half-past 7 or 8, and who have worked on through all the weary day, with no substantial food, until late at night.

These poor laborers rarely or ever taste meat from one week's end to the other. In the expressive but simple language of one workwoman, this is how they fare: “When the bread comes hot from the bake-house oven on Saturday we eat it like ravenous wolves.” The scenes of misery—misery so deep and dreadful that the most graphic pen can only faintly convey its depth of sorrow—that are witnessed in this region, would hardly be believed in the United States, and were I not quoting from English authority, of the highest character I should be fearful of laying myself open to the charge of prejudice, so frequently made against those who would rather elevate than degrade labor, and who do not want cheapness at such a fearful cost. Women, it is said (and in a few weeks I shall go through this entire region and verify the words of my informants) within a few days of their confinement have been known to work in the agony of exhaustion, in order to earn a few pence, at the “hearth”

—not the “hearth” of home, which England especially at this season of the year so fondly boasts of, but the “hearth” of the forge. They have been known to return to work in a day or two after childbirth, “emaciated in constitution, weak and weary for the want of simple nourishment.” Their children, ragged and ill-fed, have had to lead miserable and wretched lives, with no hope before them but a life of wickedness and vice. What more dismal picture can be drawn than the following description of the cheerless homes of these poor creatures?

The houses, if they deserve to be dignified with the word, are wretched in construction; in many instances they are more like hovels than human dwelling-places; they seem to be devoid of all those ordinary conveniences which are to be seen in houses occupied by a better class of work-people; they certainly shelter, and that is all, the toilers who for a few short hours rest within their ricketty walls. That many of these residences accommodate the families who have to live in them is only stating the simple truth. In nine cases out of ten there is only one room below and two above; and in ninety-nine cases out of a hundred they are inhabited by large families. How they manage to exist at all in some of these houses is a problem which may well exercise the ingenuity of some social philosophers to solve. This is a gloomy picture by day, but it is far worse by night. Nearly the whole district is literally, as well as socially, in the dark. Occasionally lurid bands of light tinge the distant horizon with a purple glow (they come in fitful flashes from some distant iron works), but there is no other mode of lighting, except, perhaps, in the liquor vaults and in the shops in the few leading thoroughfares, where the competitive exigencies of business demand the luxury of gas. In all other parts of the district, the Old World system of tallow candle and oil lamp artificial light has not been superseded.

It is important that those who may soon be called upon to legislate in our own country should understand what competing with a nation that thus permits woman to slave

means. Can the parallel of this be found in the United States? With such a black and yet such a truthful picture of to-day in the Black Country can America afford to take a leap in the dark?

XLVIII.

AMONG THE NAIL-MAKERS.

IT has been truly said that of all places in which the hand-made nail trade is carried on this Lye Waste is one of the most quaintly typical. Some of the hovels which, as one of the local bards sings, the Lye Wasters used to "build like the martins with dirt" still stand, but most of the nailers' tenements are now loosely constructed one story brick structures. The late Richard Rowe once said they were dropped down here, there, and everywhere, as if they had tumbled from the skies. Indeed a stranger loses himself in the narrow, miry thoroughfares that wind or zigzag between the houses, as he might lose himself in a nest of London courts. Waste Bank, Careless Green, Dark Lane, the Dock, are a few specimens of the local nomenclature. It is said that the last bull ever baited in England was baited on Lye Waste. "Girls used to work in its nail-shops half naked," says Mr. Rowe, "and most Lye Wasters went bare-legged and bare-footed." They never dreamt of getting married, and "whenever they prayed, 'twas for ale or strong beer." Things are not quite so bad as this at Lye now, but in a three days' walk through this country, during which trip I have visited Netherton, Bromsgrove, Gor纳al, Cradley, Blackheath, Old Swinfield, Old Hill, Rowley, Regis and Halesowen, I found that society is pretty generally "regulated" by "fourpenny" (the favorite ale of the vicinity), and I have seen sights that have made me seriously doubt if I was in a Christian land.

This region of country is located part in the County of

Stafford and part in that of Worcester. The population of Dudley is about 47,000. The other places are not dignified into municipalities, but straggle along and are included in what are called the urban sanitary districts of West Bromwich, 57,000 inhabitants; Brierly Hill, 12,000; Bromsgrove, 8,000; Stourbridge, 10,000. There is no public spirit, no municipal pride. The district is badly drained; not lighted except by the flames of the furnaces and forges.

It is said that about 24,000 persons are engaged in this dismal district making nails and rivets. Though within seven miles of the great and prosperous city of Birmingham, no one seems to know or care about this army of men, women, young girls and children condemned to a life of wretched slavery. The district itself has aptly been described as a grimy chaos. Huge mounds of black and dirty-white rubbish, melancholy asses cropping the sparse, shrivelled herbage on the banks of worked outpits; stagnant pools, spreading like dead seas between the jumbled, natural and artificial hills; cinder-strewn meadows threaded by filthy footpaths ending at smutty stiles; high roads fringed with a dreary continuity of dingy red brick houses in the midst of which a yellow-washed house looks almost as pure as a lily; small boys clustered on the roads, kicking and punching and bespattering their smaller feminine acquaintances; bigger ones loafing around the little dingy public houses; narrow ragged-hedged lanes, leading nowhither in particular, pitfallled with inky puddles through which unwashed, unshaven, heavy-booted men flounder and splash, with their hands in their coat-pockets, and vicious looking dogs cowering at their heels; jaundiced canals crowded with lanky black barges; sloping tramways, almost obliterated by gritty, viscous black mud; crossing and converging railways with roadside stations that look like recently emptied soot-ware-houses; gibbeted black colliery wheels; dilapidated engine houses and cottages sinking, on one side, into the undermined earth; dingy red and clay-colored cones and domes; iron-works' furnaces, chimneys

of all kinds, sending up smoke and flame. This is no exaggerated picture of what I saw in my walk, which began at Dudley and thence, via Netherton, Rowley, Cradley, Regis, Stourbridge, through this dismal place and back to Halesowen.

The inhabitants of this desolate district are among the most industrious, and yet the most wretched, in England. They are engaged in making all kinds of nails, rivets and chains. The work is done in little "smithys" attached to the hovels in which the workers reside, and for which the usual rent seems to be about 2s. 4d. to 2s. 6d. a week, a trifle over fifty cents. These houses, as a rule, contain little or no furniture. They are filthy and wretched beyond description. What spare time the unhappy nailer's wife gets from nursing the baby and preparing the meagre meals, is spent at the smithy fire pounding away at the anvil until late at night. But the extra work that the woman does, combined with that of one child—say a girl of fourteen—will barely keep the family from starvation. For example: An expert nailer, working steadily from Monday morning to Friday night, can only make two and a half bundles of iron rods into nails, for which he gets 6s. 7½d. per bundle, or for his weeks' work, 16s. 8d., exactly \$4. Now, his wife, by working every moment of her spare time and late into the night—neglecting the wretched little children—can make a bundle of commoner nails, for which she is paid 3s. 1d., and the little half-starved, stunted girl of twelve, with her brown arms and steady, unerring aim, will hammer out half a bundle, 1s. 6½d. Total earnings of an industrious and hard-working family, three at the forge, for the entire week:

	English Money.	United States Money.
Father.....	16s. 8d.	\$4 00
Mother.....	3s. 1d.	74
Daughter.....	1s. 7½d.	39
 Total gross earnings of the family per week.....	21s. 4½d.	\$5 13

But out of this pittance must come 3d. for carriage of iron from the "fogger's" and returning the nails, 1s. for the smithy fire and 3d. for the wear of tools. Net earning, \$4 77 per week—the united earnings of three industrious sober persons. I stood in the "foggers" shops of these nailing districts and saw the pale, emaciated women drag their weary limbs up the narrow black hills to the "gaffers," and eagerly watch the weighing of the heavy sacks of nails. The "foggers" do not "claim" that a woman, who has no family to attend to, and who goes to the forge every morning and works all day as a man, can make more than 8s. a week—less than two dollars. But the truth is they do not make anything like that amount.

"How many nails have you there," I said to a pale-faced, half-starved looking woman, with a fresh-looking lass of sixteen at her side. The nails had just been turned into the "fogger's" scales.

"There should be forty-six pounds back," she replied. "They are a small nail and it is a bundle of rods of sixty pounds made into nails."

"How much do you get for them?"

"Ten shillings, sir."

"How many days' steady work," said I, taking up one of the well-shaped hob-nails?

"Six days, late and early, sir."

"Alone?"

"Oh, no," with a sickly smile, "the lass here has worked steady with me."

"How far do you have to bring those nails?"

"About six miles."

"And walk it?"

"Yes."

"What does your fire and the carriage and the wear of tools cost you a week?"

"At least a shilling."

"Then you and your daughter, working all day, six days

in the week, at the anvil and the 'oliver,' make about nine shillings?" (\$2.16 a week).

"That is all we can make, sir."

"How do you manage to live?"

"We don't live; we hardly exist. We rarely taste meat. I don't know what the poor folks in England are coming to. If they as work at other trades be like us God help them, sir, I don't know what will become of us. A many of us have to go to the workhouse. So far I have not taken anything from them, but I may have to do it. Work is very slow here sometimes, and it's hard even to get what we do."

The most cruel part of this business is that young women should be allowed to work at what is called the "olivers," a heavy iron machine worked by means of two wooden treadles. At Halesowen I saw numbers of girls making large eight-inch bolts on these machines, and indeed they seem to work with masculine firmness and with far more vigor than the men. Mr. Ball, one of the largest nail-makers of the district, told me that hundreds of women were employed in the little "smithys" at the back of the houses in making these great bolts, and I visited seven or eight establishments, that might properly be classed as factories, thus employing women. Their earnings do not exceed \$1.25 a week.

In this way mothers, daughters and mere children toil and slave on from year to year—indeed one man told me nails had been made here for over a century in this way. How they exist is a mystery to me. They live in hovels, they are poorly fed and poorly clad. They marry early, and several girls not over seventeen were pointed out to me as mothers of children two and three years of age. The men have an unmuscular look, most of them are "very pale and lean and leaden-eyed." The small nailers are not protected by the English Factory act, and they work in their father's shops sometimes until late at night. The time to see the nailers at work is Friday night. The sharp din of the hammer on the anvil, and the dull, rapid thud of the

"oliver," as it flattened the heads of the nails and spikes, still rings in my ear from last night. I can see the bright sparks from the forge, the red-hot nails clattering down to join their cooler brethren, the bending forms of the men, the women and the girls, little children creeping into the clattering, scintillating nail-shop, for the sake of warmth, and every now and then the red flames from the forges illuminating the scene and making more distinct the wierd forms of these shadowy creatures, doomed to a never-ending industrial treadmill.

In some cases I found mothers, and three, and even four, daughters at the forge. In most of such instances the father, I was told, spent his time in the public house, and the united earnings of the entire family would be less than \$5. Many of the nailers actually starve, and cases of the deepest sorrow are not uncommon. "Misery," as *The London Standard* correspondent wrote, "so deep and dreadful that the most graphic pen can but faintly convey its depth of sorrow, are witnessed." Now that I have visited this region and walked through it, and conversed with at least a hundred of these industrial slaves, I am ready to add my testimony to the facts contained in the letter written from Edinburgh. In reply to some Democratic members of Congress who have proclaimed in the House of Representatives that the Edinburgh letter was "based on hearsay," I can simply say that I have not half told the misery of this district, and of a dozen other industrial districts in England, and that if any one doubts the facts, I will gladly take them with me to any of the places I have visited, and let them see with their own eyes. It is all very well to gloss these things over and keep them out of the newspapers, as they do in England, but the poor in England are day by day and year by year getting poorer. Not long ago, a journalist of ability undertook to show the desperate condition of the working classes here. I do not mean idle, worthless, good-for-nothing people, but just such industrious people as those described in this letter. He sent the result of his inquiries

to a Liberal journal and the manager refused to publish the facts. He wrote :

“It is better not to call attention to such matters. It could do no good.”

In this way they hope to tempt the United States to throw down its protective barriers, and at the awful risk of bringing our own labor to this condition, give back to England the sixty millions of customers she has lost in so many important branches of industry.

It is time the truth about industrial England is told. *The London Standard* has dared to speak out on the condition of labor in the Black Country, and when that paper makes the following statement I can say that it actually accords with some of the horrible facts which have come within my observation during my stay in this dismal region.

“Women within a few days of their confinement have been known to work in the agony of exhaustion, in order to earn a few pence at the ‘hearth’—not the ‘hearth’ of home, but the hearth of the ‘forge;’ they have been known to return to work in a day or two after childbirth, emaciated in constitution, weak and weary for the want of simple nourishment. Their children ragged and ill-fed, have had to lead miserable and wretched lives, with no hope before them but a life of wickedness and vice.”

Does any one in the United States fully realize how these poor creatures can live on the few shillings a week they receive? It has been truly said of the nailers that they bear privations with pathetic patience. I must say that in my walks among these poor men and women I was often struck with the truth of the above remark. At Halesowen, where I found so many young girls working the “olivers” and turning out heavy bolts, many of them were solacing themselves with songs. Some of these ballads, though destitute of rhyme, are full of reality. For example the “Nailer’s Lamentation” opens with some verses on the meagre pay, and then the niler and his wife sit down “to help to cut it out.” He says:

You know there is our coal and gleeds
For the house and the shop fire;
Likewise the mending of the tool
And charging of the iron.

My hammer and my steady, too,
Must be pared, if not steeled,
My bore and hardy must be done,
Or I cannot make good nails.

Alluding to household wants, he complains that:

The shoemaker, he must be paid,
Or shoes we shall have none.

And again:

Our clothing has got very brae,
Over and underneath;
Our children want some things to wear.
They must not catch their death.

There's also butter and sugar too,
Tea, candles, soap and flour,
And there's no meat nor garden stuff
In such a house as our.

In conclusion the poor fellow says:

Now what's twelve shillings to cut up
To pay so many things?
It would make a lawyer's head turn gray
To try to meet such ends.

It matters little to these poor fellows what the cost of clothing is, for they cannot get it. Taking the net earnings of the man, his wife, and his little daughter, which I have shown in the above tables was less than 19s., and here is what he can buy for it. The man and, his wife sat down with me and gave me the facts with great detail and care to "get it exactly right."

	s. d.		s. d.
Rent	2 4	Candles.....	3
Coal.....	2	Flour.....	6
Bread.....	4	Tobacco.....	6
Bacon.....	3	Club.....	4
Cheese.....	1 6	Clothing and boots and shoes, etc.....	1
Butter.....	1		
Potatoes.....	6		
Tea.....	1 6	Total.....	19s.
Sugar.....	7		

And the above is fair wages, not only for the nailer, but for the laboring man in every section of England, without one exception—less than \$5 a week. A necessary house-keeping utensil, a pair of boots or a garment, as both the man and his wife assured me, meant total abstinence from meat for the week, while a doctor for a dying baby or sick wife is nothing short of a domestic calamity.

I visited the brick yards of this tract of Staffordshire and found women there doing the work of men. Look at the difference in the rates of wages:

BRICK.

	United States Weekly wages.		England Weekly wages.
Burners, men	\$27 14	Brick-burners, men.....	\$7 30
Carriers, m.....	6 52	Brick makers, m.....	5 56
Engineers, m.....	15 11	Brick makers, women.....	2 92
Helpers, m.....	9 52	Brick makers, young people	2 68
Moulders, m.....	10 28	Laborers, m.....	4 91
Pitmen, m.....	6 75	Laborers, w.....	2 31
Pit-tenders, m.....	9 50	Laborers, young people....	2 54
Setters, m.....	10 28		
Wheelers, m.....	9 25		
Bank-men, m.....	9 25		
Yard-men, m.....	7 20		

Women do this work in free-trade England—yes, pale and care-worn women. “I get,” said one of these women to the writer, “1s. 5d. (34 cents) for making 1,000 bricks; some days I can make 1,500 (thus earning 51 cents), but in general I make from 1,000 to 1,200.”

Another said: "I has to work very hard to earn 5s. (\$1.20) a week, and as my poor man hasn't been able to do any work for six years and more, it's a very 'ard life for us."

XLIX.

"A CRY FROM THE BLACK COUNTRY."

AFTER the publication of the Black Country letters, an English writer, George Weatherly, wrote the following verses:

Where the forge-sparks glow and glisten,
Where the smoke-clouds veil the sky,
There, if you will only listen,
You may hear a bitter cry—
Cry of utter woe and sadness
Rising up amid the din;
Cry of thousands in their madness
Vainly striving bread to win.

Day and night the fires are burning,
Day and night the iron glows,
And the toilers' hearts are yearning
For a respite for repose;
But the flames of fire are leaping,
And the molten masses run,
And 'tis vain to think of sleeping,
Till the tale of work be done.

And these toilers night and morning—
Are they strong men in their prime,
Weary of their work, but scorning
To be paupers ere their time?
Nay, but women—wives and mothers,
Girls who are but children still,
Slaving on with fathers, brothers,
Many a hungry mouth to fill.

Day and night the iron's riven,
Barest pittance but to gain;
Day and night the nails are driven
Into many a heart and brain.
Day and night the sparks are flying,
Searing many a bright young life;
Day and night all grace is dying,
Blasted in the bitter strife.

There, then, where the red fires glisten
Lurid in the midnight sky,
Brothers, sisters, if you listen,
You will hear a bitter cry—
Cry of utter woe and sadness
Rising up amid the din;
Cry of thousands in their madness
Vainly striving bread to win.

L.

MRS. LOUISE CHANDLER MOULTON.

THE amount of interest that has of late years been awakened in industrial topics is astounding. On the boat coming over I met that well-known and graceful writer, Mrs. Louise Chandler Moulton. She was struck with the accounts I gave her of the condition to which British labor had been reduced in the scramble after cheapness. Mrs. Moulton was somewhat imbued with the doctrine of free trade as taught by the college professors of New England, but she had never fully realized that free trade means cheapness—that cheapness means the degradation of human labor in America. The day after the conversation I met Mrs. Moulton on deck, when she handed me the following:

IN THE BLACK COUNTRY.

[NOTE.—The inhabitants of this desolate district are among the most industrious and yet the most wretched in England. Their children, ragged and ill-fed, lead miserable lives, with no hope before them but a life of wretchedness and penury.—R. P. P.]

In that Black Country which the sun disowns,
Where smoke obscures the sky and chokes the breath,
And pallid life walks hand in hand with death,
And men as wan as ghosts, with hearts like stones,
And lips too weary even to utter moans,
Toil day by day for pittance of coarse bread,
And see gaunt famine still beside them tread,
While weaker women mingle toil with groans,
What earthly light shall dawn? There is no rest:
No hope of brighter days beguiles—no dream
Of better fortune cheats the anxious breast;
Through the black darkness shines no friendly beam:
And yet unheeding suns arise and set,
And joy is in the world. *Does God forget?*

LOUISE CHANDLER MOULTON.

On the Servia, Feb. 19, 1885.

“After our conversation yesterday,” she remarked, “I have thought a great deal about the poor creatures condemned to such a life of misery and toil, and wondered if God had forgotten those who thus wearily labor that others may grow rich and live in luxury.”

One may well stand appalled before the labor problem as we find it in Europe. Levi, Giffen, and others estimate that the average annual earnings of the industrial classes in England is about \$200. I often doubt if it reaches this amount when I see the poverty in which they live in the large cities. When one sees the squalor of such cities as Liverpool, Sheffield, Leeds, Glasgow, and some parts of Birmingham, to say nothing of London, the crowded houses, the cellars, reeking in filth; yet we are told by one of England’s greatest statesman that this was the result of

England's prosperity, the increase in the value of land. Thousands of families have only a single room to dwell in, where they sleep, eat, multiply and die. For this miserable lodging they pay a price ranging from 50 cents to \$1.25 per week, one quarter and sometimes one third of their earnings. A tale told the other day by the chairman of the London School Board illustrates the terrible character of this struggle for house room. Three schools were taken, and the condition of the children was ascertained. They came from 1129 families. Of these, 871 families had only one room to live in. In the majority of these cases the families living in one room contained five or more persons, in some as many as nine.

LI.

THE DEGRADATION OF WOMAN.

THESE descriptions of the degradation of woman at the forge, and the brick-yards of "Merrie England," will no doubt thrill with joy the hearts of free traders. But bad as it is, I think to complete the ecstasy of those who believe in the degradation of human labor I would suggest to them that at Stockholm the debasement of woman is perhaps more thorough and complete than in any city of Northern Europe. In that picturesque town on the seven islands she practically supplants the beast of burden. And I am not altogether unfamiliar with woman's work in Europe. I have seen her around the pit mouth, at the forge and bare-footed in the brickyards of "Merrie England," filling blast furnaces and tending coke ovens in "Sunny France." I have sadly watched her bearing the heat and burden of the day in the fields of the "Fatherland," and in Austria-Hungary doing the work of man and beast on the farm and in the mine. I have seen women emerge from the coal pits of "busy Belgium," where little girls and young women grad-

uate underground as hewers of coal and drawers of carts, for it is no uncommon thing in Europe to hitch women and dogs together that manufacturing may be done cheaply. Aged, bent and sunburned, I have seen woman, with rope over shoulder, toiling on the banks of canals and dykes in picturesque Holland. Having witnessed all this I was yet surprised to find in a city so beautiful and seemingly so rich and prosperous as Stockholm, women still more debased. In Stockholm she is almost exclusively employed as hodcarrier and bricklayer's assistant. She carries bricks, mixes mortar, and in short, does all the heavy work about the building. At the dinner hour you see groups of women sitting on the piles of wood and stone eating their frugal repast. They wear a short gown, coming a trifle below the knees, their home-knitted woolen stockings and wooden shoes. Over their heads a kerchief is tightly tied. Those engaged mixing mortar and tending plasterers wear aprons. They are paid for a day of hard work of this toil, lasting twelve hours, the munificent sum of one kroner (equivalent to 26.8 cents). Women sweep the streets, haul the rubbish, drag hand-carts up the hills and over the cobble stones, unload bricks at the quays, attend to the parks, do the gardening and row the numerous ferries which abound at Stockholm. The entire dairy business of the city is in their hands, and here they take the place of horses and dogs, carrying on their shoulders the heavy cans of milk from door to door.

When American women are thus abased, and not until then, shall we be able to build and to manufacture as cheaply as Europe, and by Europe I make no distinction between Protective Sweden and Free-Trade England. It is the labor of Europe, with European environments, that the United States cannot admit into the country without industrial ruin, not the labor of any one European country, nor of Europeans who come to our shores with the honest intention of becoming part of our body politic and of sustaining American institutions.

LII.

THE ENGLISH CENSUS.

In spite of the wonderful progress that England has made during the life of the present generation, her people are to-day as bitterly opposed to innovations as they were in the days of the uncouth Sibthorp, when it was said that the con-course of foreigners to the Hyde Park Exposition would commence a revolution here, murder Queen Victoria, and, after dishonoring the women of England, proclaim a red republic in the kingdom. The project was attacked furiously by the *Times*, and even one member of Parliament in a speech prayed for some tremendous hailstorm or lightning to be sent from heaven expressly for the purpose of destroying in advance the building destined for the exhibition, and to mark the downfall of England. Even within my own recollection, when Mr. Gladstone proposed in one of his budgets to reduce the duty on claret, and to encourage the use of light wine, it was frantically opposed in Parliament as a foreign innovation, and some of the speakers declared that "the virtue of Englishwomen would never be able to stand this new and terrible mechanism of destruction. She who was far above the temptation of the public house would be drawn easily into the more genteel allurements of the wine-selling confectioner's shop." And in every such shop would be the depraved, conventional foreigner, the wretch with a mustache and without morals, lying in wait to accomplish at last his long-boasted conquest of the blonde misses of England. Indeed, one member, a little more fanatical than his colleagues, went so far as to picture the unhappy British father in search of a female member of his family finding his wife in one of those confectioner's shops lying drunk in one room, and his daughter disgraced in another.

Almost every innovation introduced into England has

been opposed in this way. Even the census, which I propose to make the chief topic of this letter, was bitterly opposed when a wickedly radical government proposed to take an inventory, as it were, of the little island. The alarm with which the proposal was received, and the virulence of language with which it was combatted, cannot but excite our surprise at this day. "I did not believe," said the chief opponent in the Commons, "that there was any set of men, or indeed any individual of the human species, so presumptuous and so abandoned as to make the proposal we have just heard. I hold this project to be totally subversive of the last remains of English liberty. The addition of a few words would make it the most effectual engine of rapacity and oppression that was ever used against an injured people. Moreover, an annual register of our people will acquaint our enemies abroad with our weakness."

Another honorable member said: "The people looked on the proposal as ominous, and feared lest some public misfortune or an epidemical distemper should follow the numbering." The bill, after much debate, finally passed the Commons, but was far too great an innovation for the House of Lords, and was thrown out on the second reading. Hardly half a century passed away before the proposal was renewed and the bill passed. On the 10th of March, 1801, the first enumeration was made and has been repeated ever since, without omission, in the first year of each successive decennium. The first census ever taken in the United States was in 1790, hence the census just completed is the tenth census of the United States, and that of England the ninth enumeration of its inhabitants. As the chief in charge of one of the most important divisions of our own census, it is not surprising that one of the first places I visited on my arrival in this city was Somerset House. I found that the officers of the General Registry office had been organized into an impromptu census office, and for this purpose about 100 men were employed in Craig's Court, an office rented for this special purpose. Sir Brydges Powell Henniker, Bt.,

Registrar General, assumes the responsibility of superintendent, and W. Clode, Esq., and Dr. W. Ogle that of his first assistants. Dr. Ogle, who is Superintendent of Statistics in the General Register Office, very kindly initiated me into the mysteries of the British census office. The English census is all taken in one night.

Dr. Ogle told me that the difficulty of taking an account of the population within the limits of a single day, becomes greater and greater at each recurring decennial period, owing to the rapid growth of the people, and the increasing complexity of their local sub-division. But in spite of this the ninth census of England, like the tenth census of the United States, was carried out with complete success, and without more than the usual amount of friction, and the figures are probably more accurate than those obtained in former years.

The British census deals with nothing but the population and the number of inhabited houses. It will cost probably \$1,000,000 for the whole kingdom, but cannot in any way be compared in scope to that of the United States. It has nothing to do with agricultural returns, with manufacturing statistics, with the depending, delinquent, and defective classes, with education, with railroads, with wealth, debt, and taxation, with the social condition of cities, with mining and stone quarrying, and with a score of other interesting inquiries that make our census a grand inventory of the progress of the Nation during each decennial period. For the purpose of enumeration the kingdom was divided in 630 districts and 2,175 sub-districts, and a sufficient corps of enumerators were employed to visit every house and obtain the schedule, which in most cases the occupier himself made out. The total number of persons returned as living in England and Wales, at midnight on April 4, 1881, was 25,968,286. This was an increase of 3,256,020, or of 14.34 per cent upon the numbers living at the previous census of April 3, 1871, and was almost exactly equivalent to the addition of another London with all its inhabitants to the popu-

lation. The increase was higher than in any decennium since 1831-41, when it was 14.52. In the two succeeding decades (1841-51 and 1851-61) the rate fell, first to 12.65 and then to 11.93; but in 1861-71 the rate again rose to 13.19, to be, as already noted, still further advanced in the ten years just completed. In the United States the increase has been more than double that of England and Wales.

The census of Scotland is taken about the same time by the Registrar General of Scotland, and his preliminary report, now in my possession, enables me to state that the population of Scotland amounted in April, 1881, to 3,734,441, a total increase of 374,423 persons in ten years, an increase of about 11 per cent, or about one-third of the rate of increase in the United States. It will be observed that the population of Scotland does not equal by several hundred thousand that of the single State of Pennsylvania.

The census of Ireland is another separate job, and is superintended by the Registrar General of Ireland, and two assistants, who combined call themselves commissioners. Among other facts brought out in this census are the religious professions in each county and province. Of the total population of Ireland (5,159,839), 2,522,804 were returned as males, and 2,637,035 as females, thus showing a decrease since 1871 of 252,538 persons, or 4.7 per cent. Between 1861-71 the decrease amounted to 6.7 per cent. According to the summaries furnished by the enumerators 3,951,888 persons returned themselves as Roman Catholics; 635,670 as Protestant Episcopalians; 485,503 as Presbyterians, and 47,669 as Methodists. All denominations showing a decrease, excepting the Methodists, which sect has increased nearly 10 per cent. This table shows how the population of this unhappy country has decreased since 1841:

	Total Population.
1841.....	8,196,597
1851.....	6,574,278
1861.....	5,798,967
1871.....	5,412,377
1881.....	5,159,839

A total decrease of 3,036,758 in forty years—thus while England has increased in population during that period 10,000,000, Ireland has decreased over 3,000,000. Surely there is something wrong in the government of a land so rapidly disintegrating.

Returning again to the progress of population in England and Wales, which forms a far more interesting topic for consideration, I find that in the course of the last half century the population of England and Wales has increased 86.9 per cent. Supposing a similar rate of increase to be maintained, the population just enumerated would be doubled in the year 1936. Such a proportion is, however, purely hypothetical. Had such a rate of increase prevailed in former periods, a single pair of persons living in the year A. D. 571, would have provided the whole of the present population of England and Wales. During the half century of this remarkable increase in population a tremendous change in the social organization of the countries has taken place. A series of what has been aptly termed unequalled and bloodless triumphs over physical and moral obstacles placed this island at the head of modern industry. The labors of such men as Brindley, Arkwright, Crompton, Cartwright, Roebuck, Wedgwood, and, greatest of all, Watt, had increased the resources of that country to such an extent that it gave the population, increasing as I have shown beyond all previous example, abundant opportunities of profitable labor; and “opened new and unlimited fields of production for the multiplication and diffusion of the necessities of life, and of the comforts and refinements of civilization.”

In 1841 the census shows us that nearly 8,000,000 persons in England, Wales, and Scotland were practically the supporters of the entire population. Speaking in round numbers, 3,000,000 were engaged in commerce, trade, and manufactures; 1,500,000 in agriculture; 7,000,000 were laborers, not agricultural; 130,000 formed the army at home and

abroad; 218,000 were employed on the sea and in inland navigation; 63,000 were professional men; 140,000 were following miscellaneous pursuits as educated persons; 17,000 were in the government civil service; 25,000 were parochial and other officers; 1,100,000 were domestic servants: 500,000 were persons of independent means; and 200,000 were alms people, pensioners, paupers, lunatics, and prisoners.

The great increase had been in the number engaged in manufacture. The large cities had begun to grow. In 1811 England had only twelve cities and towns with a population exceeding 30,000. At the close of the first decade of the last half century she had thirty-one cities and towns of 30,000 population and upward. Lancashire, Yorkshire, Staffordshire, and Warwickshire, which with London now form the great manufacturing regions of England, and contain in the aggregate 11,702,588 of the total population of 24,608,391—or nearly 80 per cent.—were then (London excepted) like Hercules in his cradle. Since then villages, each with a few hundred souls scattered around its parish, have become enormous towns with their thousands of inhabitants, the wonderful increase of the population of London has been the marvel of the world. Manchester and Salford, which at the beginning of this century, numbered hardly 100,000, have increased to nearly 600,000; Birmingham from 80,000 to over 400,000; Liverpool from 100,000 to over 550,000; Leeds from 60,000 to over 300,000.

In the table on the following page are the twenty principal towns of the kingdom in the order of their rates of increase in the past decennium.

The increase of the 19 provincial towns in this list was 16.5 per cent. during the last decade, while that of London was 17.2 per cent. In the previous decennium (1861-71) the respective rates had been 16.1 for London, and 17.2 for the provincial towns. Thus London has increased in a somewhat higher ratio, and the 19 provincial towns in a somewhat lower ratio than was the case in the preceding

TOWN—	Increase per cent. 1871-81.	Increase per cent. 1861-71.	Increase per cent. 1861-81.
Salford.....	41.2	21.8	72.0
Oldham.....	34.8	14.2	53.9
Nottingham.....	34.2	18.9	52.9
Leicester.....	28.5	39.9	79.8
Hull.....	26.5	24.8	57.9
Bradford.....	24.4	37.3	70.8
Leeds.....	19.3	25.1	49.2
Sheffield.....	18.5	29.6	53.6
Sunderland.....	18.3	20.5	42.6
London.....	17.2	16.1	36.0
Birmingham.....	16.6	16.1	35.4
Brighton.....	16.3	17.5	36.6
Bristol.....	13.1	18.5	34.0
Newcastle-upon-Tyne.....	13.1	17.7	33.1
Portsmouth.....	12.7	19.8	35.0
Liverpool.....	12.0	11.1	24.4
Wolverhampton.....	10.9	12.2	24.4
Norwich.....	9.3	7.3	17.3
Plymouth.....	9.2	9.8	20.0
Manchester.....	—2.8	+3.7	+0.8

decennium. The population of London exceeds that of the aggregate of all the above towns. London, 3,814,571; the 19 towns above named, 3,764,244. No fewer than 560,311 persons were added to the inhabitants of the metropolis in the last decade—a number exceeding the entire population of Chicago in 1880. How long will it be possible for London to thus add a Chicago to its population every ten years, is not for me to say, and, as I have already shown, equally hypothetical are all attempts at forecasting population. And it is equally futile to predict the future of our own cities. The following table, in which I have taken the population of American cities from the census returns of 1870 and 1880, sufficiently illustrates the relative per cent of growth of the eight great English cities, and the eight leading American cities:

CITY.	Per cent. growth 1870-80.	Per cent. growth 1860-70.	CITY.	Per cent. growth 1871-81.	Per cent. growth 1861-71.
New York.....	28	16	London.....	17	16
Philadelphia.....	25	19	Liverpool.....	12	11
Chicago.....	64	180	Birmingham.....	17	16
Boston.....	44	41	Manchester†.....	12	4
St. Louis*	18	91	Leeds.....	19	25
Baltimore.....	24	25	Sheffield.....	18	30
Cincinnati.....	14	35	Bristol.....	13	19
New Orleans.....	13	12	Bradford	24	37

The rate of increase during the last twenty years in Chicago, of course, has been greater than in any other city, but aside from that it will be seen that the English cities all hold their own with those of the United States. And yet in these islands, with this wonderful increase of the city population, the extremes of wealth and poverty are found in harsher contrast than they have ever been found elsewhere. With the increase of the city population, agriculture has retrogressed. The wheat crops are now fifty per cent less than they were seven years ago; the number of sheep have decreased since 1874 about 20 per cent, and a pending struggle between the landlord and the tenant seems imminent. And yet London bounds onward, adding in population a Chicago to its immense growth every ten years, while the provincial towns follow close behind.

Thoughtful men pause and ask if it is real, and the murmuring of mustering hosts can already be heard. Judge Cairnes says: "Can anyone seriously consider this state of things, and yet repose in absolute satisfaction and confidence on the maxim of *laissez faire*?"

The other night I sat in the gallery of the House of Commons when Mr. Ritchie moved for a select committee to in-

* The great discrepancy in the increase of St. Louis is due to the enumeration frauds of 1879—the actual increase during last decade was greater than would seem. † Due to the formation of Salford.

quire into the effect of foreign tariffs on the development of British manufactures and industries. He said that the consumption of tea and coffee and spirits were falling off—all indications that the working classes were not earning much money. In England itself pauperism had increased. In 1876 there were 18,000 in-door and 79,000 out-door paupers, while in 1880 there were 26,000 in-door and 84,000 out-door. In Scotland the figures had remained about stationary, but in Ireland, as we might have expected, they had increased from 6,000 in-door and 31,000 out-door in 1876 to 8,000 in-door and 53,000 out-door in 1881. Emigration during the same period had increased, being 109,000 in 1876 and 227,000 in 1880. Railroad receipts were falling off, and in everything that was generally taken as indicating the prosperity of the country they had been going back instead of progressing. Without going into the cause of this and without saying that it is due to England's commercial policy, it will be worth the while of every Western man to reflect a little on the array of facts I have presented, and which not only show the wonderful advance England has made in the past, but they also present a picture of the England of to-day, and time alone will decide whether she is yet destined for greater achievements, or whether, in the words of Bishop Berkeley, "Westward the course of empire takes its way."

LIII.

BIRMINGHAM—THE MERRY, MERRY PAUPER.

OVER one million of the inhabitants of the United Kingdom are paupers, and in London one in every five of the population dies a pauper. Pauperism and crime annually cost John Bull \$82,000,000. The total number of paupers in the principal continental countries is 2,351,000, while their population is 187,000,000, against 1,017,000 paupers in the United Kingdom with a population of 35,000,000.

Showing 30.6 paupers to the thousand in free trade England, and only 12.5 paupers to the thousand in protective continental countries.

The cost of pauperism and crime under free trade has steadily increased year by year—increased too, more rapidly than the population. In 1840 the total cost was \$30,500,000 annually; it has now reached \$82,000,000 annually. The population in 1841 was 26,000,000; “to-day it is 35,000,000.” Said Mr. Joseph Chamberlain of Birmingham: “Never before was the misery of the very poor more intense, or the conditions of their daily life more hopeless and more depraved.”

And Mr. Chamberlain uttered God’s truth. The man who denies this stultifies himself, and deliberately utters falsehoods.

If a resident of Illinois were to ask me to describe pauperism and poor-relief in England and Wales, its extent and cost, I would say to him, Picture to yourself a country in area only one million acres larger than your own State, but containing a population eight times as large; this population distributed unequally, 15 per cent of it to be found in one city, and nearly twelve millions (or half the population of England alone) living in London and the four great manufacturing counties of Lancashire, Yorkshire, Staffordshire, and Warwickshire; where 212 persons reside in cities and towns to every 100 residing in the rural districts, or two to one; where frequently one million of the population are put down in the Blue Books as paupers. Instead of this territory being divided into 102 counties as Illinois is, the inquirer must imagine it parceled out into 647 unions, which vary in area from 60 to 120 square miles. In each of these unions may be found a work-house, varying in its accommodations from St. Pancras, which accommodates nearly 4,000, and Liverpool 3,500, and Birmingham 2,000, to those in such unions as Rothbury and Dulverton, which each have a capacity of about fifty pauper-power. It would be as difficult to give a correct notion of the style and size of

these buildings as to picture the variegated surface of the globe. Some are said to be lofty, some low, but all are massive. Some (for instance, the one at Birmingham or that at Liverpool) might be called an elegant retreat, while others would look beside it like a group of wheelbarrows round the Lord Mayor's coach—lost in the splendor of the gilded spectacle. To add up the aggregate capacities of those work houses makes one believe that they were expected to contain half the population of the country. But as a matter of fact (the large towns excepted), they do not contain in many cases half, in some not a quarter of the inmates for which they were built, so that the waste in keeping up large, unfilled establishments, each with an expensive staff of officers, is very great indeed. To complete our picture, we must add an army of nearly 7,000 paid officials constantly engaged in one branch or another of the poor law administration, and whose aggregate salaries and rations came last year to over \$5,000,000, while the total maintenance of indoor paupers was only about \$8,750,000. The total annual cost of pauperism and outdoor relief in Great Britain and Ireland is in round figures, nearly \$50,000,000. Below is a table showing the populations of England and Wales and the average annual expenditure for paupers for the last five decades:

Year.	Population.	Expenditure.	Per head popula- tion.
1834.....	14,372,000	£6,317,255	8s. 9½d.
1841.....	15,911,757	4,760,929	5s. 11½d.
1851.....	17,927,609	4,962,704	5s. 6½d.
1861.....	20,066,224	5,778,943	5s. 9 d.
1871.....	22,712,266	7,886,724	6s. 11½d.
1880.....	25,323,000	8,015,010	6s. 4 d.

The most dangerous form that pauperism in England is now taking is the enormous increase in the cost of outdoor relief. Through the kindness of the honorable Mayor of Birmingham, Mr. Alderman Avery, I was taken to the palatial work-house, and shown into the details of its work-

ing by the clerk to the guardians, Mr. Walter Bowen. I could not help noticing the absence of able-bodied workers, which gave a totally different character to the establishment. I was told that the exceptions to this are not the industrious, not even the merely improvident poor, but those of downright bad character, whom temporary pressure, perhaps of disease, has driven within its walls.

So that a work-house in England does not, as a rule, contain those that can work. It may be described "as a work-house essence;" it is rather school, infirmary, penitentiary, prison, place of shelter, or place of work, but something that comes of all these put together. The able-bodied are the recipients of outdoor relief, and this alone, it is said, constitutes an annual burden upon real property in the kingdom to the extent of between \$15,000,000 and \$20,000,000. The result of this might be noted to advantage.

1. It acts as a protective duty in favor of the laborer as against the farmer (or landlord), as against the rate-payer.
2. It inflicts serious injury upon the laboring class by keeping them in a state of dependence.

The melancholy army of "casuals," as they are called, seem to be constantly on the move. The "order" for admission is available "for one night only," and does not take effect earlier than 6 o'clock in the evening in winter, and 8 o'clock in summer. The vagrant is searched and bathed, his clothes taken from him, and if necessary dried or disinfected. He is not entitled to discharge himself before 11 A.M. the next day, and then only if he has done the task-work—breaking stones, picking oakum, etc., which has been assigned to him. He receives eight ounces of bread, or six ounces of bread and one pint of gruel, or broth, for supper and breakfast. Mr. T. W. Fowle, the rector of Islip, and a careful student of the poor laws administration, gives it as his opinion that to the professional vagrant the "casual ward" is simply an arrangement that helps him to live the rest of his life as best he pleases. "He has," says that gentleman, "his pleasures, his liberty, his money, his

opportunities of committing crime, and of extracting money from the bounty of a misguided public. In short, the vagrant is still, as he ever has been, master of the position—the scandal and standing difficulty of poor-law administrations."

After visiting the work-house proper, I was conducted by Mr. Bowen to what is called the Test House. It seems the test house is a Birmingham idea, and, from what the master of the work-house and the other officials said, it has worked remarkably well. The test house is an inexpensive, plain-looking brick building, standing some little distance from the work-house proper. It could accommodate several hundred—possibly one thousand—but "somehow," said Mr. Bowen, "the 'vags' don't take to it kindly." The highest number it ever sheltered at one time was sixty. The day I was there a score of woe-be-gone looking ruffians were scattered round the large room on forms gloomily picking oakum. Now, any one who has seen this process, and seen the oakum weighed out, will appreciate what picking four pounds of oakum means. This has to be done every day. But this is not all the indignity that a cold-blooded local government board has forced upon the Birmingham able-bodied pauper. It has prepared for him a weekly *table d'hôte* (shall I call it?), and, through the courtesy of the work-house authorities, I append it intact.

DAYS.	BREAKFAST.				DINNER.				SUPPER.			
	Bread, oz.	Milk, pints.	or	Gruel, pints.	Cooked meat, oz.	Potatoes, oz.	Soup, pints.	Bread, oz.	Cheese, oz.	Bread, oz.	Cheese, oz.	Broth, pints.
Sunday.....	6	4 $\frac{1}{2}$	or	1 $\frac{1}{2}$	6	16	...	...	...	6	1 $\frac{1}{2}$	...
Monday.....	6	4 $\frac{1}{2}$	or	1 $\frac{1}{2}$	...	...	1 $\frac{1}{2}$	4	...	6	1 $\frac{1}{2}$	...
Tuesday.....	6	4 $\frac{1}{2}$	or	1 $\frac{1}{2}$	...	...	...	8	1 $\frac{1}{2}$	...	6	1 $\frac{1}{2}$
Wednesday.....	6	4 $\frac{1}{2}$	or	1 $\frac{1}{2}$	...	...	1 $\frac{1}{2}$	4	...	6	1 $\frac{1}{2}$	1 $\frac{1}{2}$
Thursday.....	6	4 $\frac{1}{2}$	or	1 $\frac{1}{2}$	6	16	...	...	...	6	1 $\frac{1}{2}$	1 $\frac{1}{2}$
Friday.....	6	4 $\frac{1}{2}$	or	1 $\frac{1}{2}$	...	...	1 $\frac{1}{2}$	4	...	6	1 $\frac{1}{2}$	1 $\frac{1}{2}$
Saturday.....	6	4 $\frac{1}{2}$	or	1 $\frac{1}{2}$	...	...	...	8	1 $\frac{1}{2}$	6	1 $\frac{1}{2}$	1 $\frac{1}{2}$

But to fully appreciate this sort of living one must know the names and quantities of the several ingredients to be used in every gallon of the liquid food. Here it is:

SOUP.

Name and Description of Ingredient.	Quantity to a gallon.
	oz.
Legs and shins of beef.....	16
Split peas.....	8
Oatmeal.....	8
Carrots.....	4
Turnips.....	4
Onions.....	4

The meat to remain in the soup.

BROTH.

Name and Description of Ingredient.	Quantity to a gallon.
	oz. pts.
Liquor from boiled meat.....	8
Oatmeal.....	8

The liquor from boiled meat is the liquor in which the meat for dinner has been boiled,

GRUEL.

Name and Description of Ingredient.	Quantity to a gallon.
	oz. pts.
Oatmeal.....	2
Skim milk.....	6
Water	2

“Shades of departed vagrants defend us,” cries the pauper undergoing this test. What would the over-fed paupers of the old poor law administration have thought of the shin soup, oatmeal broth, and skim-milk gruel of to-day? Before me is the report of the Commission of Inquiry into the poor law. Some of the testimony seems too ludicrous to be readily believed by those of the present generation. Yet, a few weeks ago, when attending the dinner of the Political Economy Club in London, I was introduced to the now venerable Mr. Edwin Chadwick, who had the rare good fortune not only to take a prominent part in laying bare the existence of those abuses, and tracing them to their roots, but also to

propound and live to enforce the remedies by which many of them have been cured. It was to the same Mr. Chadwick, now a white-haired old gentleman of eighty, that one work-house master said: "We give them all meat four times a week. The working men have a bellyful. We never weigh anything. Then they have good table beer and good ale. You may say that the inmates of my work-house, sir, are better off than one-half of the rate-payers out of the house."

In those merry days in England the pauper was the favored of God's creatures. Imposture and crime were bountifully rewarded, while industry and frugality met either with neglect or persecution. The parish functionary, like old Mr. Bumble himself, forgot he was merely appointed to administer relief to the indigent, but believed that he was the great patron of the whole laboring population, who could never go along without his aid. Said one witness before the commission: "We give 'em as much victuals as ever they can eat." The following advertisement for the contract for providing work-house fare has been aptly termed one of the most "astonishing documents in the pigsty history of England's poor laws:"

The contractor must furnish good, wholesome, sweet, clean, comfortable beds; servants to cook and serve the victuals, and attend on the poor; good, sweet, wholesome, fat meat; good, sound, small beer, best flour, good Gloucester cheese, and good clean butter. The fires must be good, and kept up in certain rooms at all hours, so that paupers might boil their tea-kettles. The contractors must provide wigs for such paupers as may wear them or may require them.

With such inducements as the above advertisement is it surprising that the annual poor rate of the land, which at the close of the American war in 1783 was £2,132,487, had increased in 1833 to over £8,600,000? The poor rate had increased 300 per cent, and the population about 75 per cent. The whole rental of the country was being rapidly swallowed up, not by poverty, but by pauperism. But the cancer of pauperism had eaten into the very heart of the

largest portion of the community, and the evil effects of this shocking system of poor law administration, in my belief, is one of the causes of so much pauperism to-day. A certain class of the people absolutely look forward to the poor-house as their final home, and fight just the same as at the other end of the social scale the sons and daughters of the Queen look forward to Parliament granting their annuity of \$125,000 a year on the celebration of their marriage. It is one of the "blessed institutions" of the country.

The fare for the regular indoor inmates of an English workshop is better than the test house fare, which I have already given. Here it is:

DAYS.	BREAK-FAST.		DINNER.						SUPPER.		
	Oatm'l porridge, quart.	New milk, pint.	Cooked meat, oz.	Potatoes and veg- etables, oz.	Broth, pints.	Bread, oz.	Suet pudding and treacle, oz.	Soup, pint.	Stewed meat and potatoes, lbs.	Porridge, quart.	New milk, pint.
Sunday.....	1	1	4	12	...	...	...	...	...	1	1
Monday.....	1	1	...	...	1 $\frac{1}{2}$	7	...	...	...	1	1
Tuesday.....	1	1	...	...	...	6	14	1 $\frac{1}{2}$	...	1	1
Wednesday.....	1	1	4	12	...	...	14	1	...	1	1
Thursday.....	1	1	...	...	...	...	...	...	...	1	1
Friday.....	1	1	...	...	...	...	14	...	...	1	1
Saturday.....	1	1 $\frac{1}{2}$	...	...	...	...	...	2	1	1	1 $\frac{1}{2}$

The above is what every Englishman is entitled to, and so particular is the law, and so ingeniously cold-blooded is the equity that presides over work-house management, that "an inmate can call upon the master to weigh the food provided for him in his own presence and in that of witnesses." He can also appeal to the guardian if his food is not satisfactory, and be certain of being heard. The pauper of England is also a privileged character, inasmuch as the law affords him efficient help in compelling the obedience

of his wife, for, should a pauper forbid his wife to leave the work-house, the guardians are obliged to retain her until such time as her pauper lord may relax his marital authority. There was a time when the laws relating to what the work-house officials in England usually call "hillyjittimites," made profligacy a lucrative occupation, inasmuch as what the mother of two or three illegitimate children received from the parish enabled her to live more comfortably than some more decent families, and she was even considered a good object of marriage, on account of these weekly payments," the proceeds of the sale of virtue becoming in this way a marriage portion.

The English work-house of to-day differs widely from that of forty years ago. The following description is taken from the *Quarterly Review* of several years ago. It is worth reproducing: "In one large room are found sitting in silence a group of motionless, worn-out men, with age grown double, with nothing to do, with nothing to cheer them, with nothing in this world to hope for, gnarled into all sorts of attitudes, so that they look more like pieces of ship timber than men. In another room are seen, huddled together, a number of old, exhausted women, clean, tidy, but speechless and deserted.

"The next scene was a room full of sturdy laborers out of work. These were generally sitting round a stove, with their faces scorched and half-roasted. As we passed them they never rose from their seats, and had generally an over-fed, a mutinous, and an insubordinate appearance. A room full of girls of from 5 to 16, and another of boys of the same ages, completed the arrangements."

Of the smaller house of those times the writer says: "Classification has been found impossible. All that is effected is to put the males of all ages into one room, and all the females into another. In these cases the old are teased by the children, who are growled at when they talk and scolded when they play, until they become cowed into silence. The able-bodied men are the noisy orators of the

room. The children listen to their oaths, and, what is much worse, to the substance of their conversation; while a poor idiot or two, hideously twisted, stands grinning at the scene, or, in spite of remonstrances, incessantly chattering to himself. In the woman's hall, which is generally separated only by a passage from the men's, females of all characters and of all shapes live with infants, children, and young girls of all ages."

The palatial English work house of the present day, like the one in this city, or like the model work house at Bow, which I believe belongs to the White Chapel Union, are constructed on sound principles. As the sick and invalid are kept in the old work house, a mile away, there are none but healthy people in the new work house at Bow. Every one is kept busily at work. There are carpenter shops, a smith's shed with forge, work-rooms for tailors and shoemakers; nor are the smaller trades overlooked. For these who have never learned a trade there is wood-chopping, coffee-grinding on a large scale, a little stone-breaking, cleaning and sweeping, attending to the pigs and the garden, and other small work. How much better is this than to keep even the old man in idleness while the weary hours pass. On the woman's side all the washing is done, and besides the "house" washing the washing for the large district schools. Few if any tradesmen are employed to do work here for the three or four hundred people, and there is considerable sale of the results of their work. Other Unions in England are moving in this direction, which corresponds more to the American prison system than to our method of dealing with the poor.

Turning from the pauper to the criminal, I find that England and Wales alone have a police force of 30,047 men, or about one policeman to say every 812 of the population. The cost of the force for 1879 was \$15,290,000. The total annual cost per man was £98 10s. 4d., or \$492.50. Of this amount \$28.50 was for clothing and accoutrements. There are in the several cities and towns of England 41,048 known criminals, 4,269 houses of bad character, and 52,443 crimes

annually committed. In 1879-80, 16,388 persons were committed for trial, and of these 3,835 were acquitted and 1,502 sentenced to penal servitude. There were 34 murders in England that year, Lancashire, the "banner" county for murders, heading the gloomy list with 6, Middlesex following with 5, and Lincoln, Derby, Essex, Gloucester, and York each with 2. Of the 34 only 16 were executed, the sentences of the remainder being commuted to penal servitude for life. The total daily average of convict prisoners was 10,299, 1,154 being females. The total annual cost of the twelve convict prisons was:

Cost of staff.....	£177,877
Maintenance of convicts.....	153,215
Incidentals	26,034
Total	£357,126

or an average gross annual cost for each convict of \$166. The highest average cost is that of the Brixton Prison, \$241, and the lowest that of Pentonville, \$143.50 per head. By the prison act of 1877, all prisons are now vested in the Secretary of State for the Home Department; and at the date of its commencement there were in existence 113 local prisons. During 1879 there were 45 abolished. The total commitments for the year were 192,235, of whom 49,554 were females. The total annual cost of local prisons was £430,985, the daily average of prisoners being 19,835, at an annual cost per head of about \$110. Besides all this there are 6,284 boys and girls in the reformatory schools, and 12,422, of whom 2,054 were girls, under detention during 1879 in industrial schools. The cost of the police establishment in Ireland was no less than £6,087,430, and yet the population of the island is only 5,159,839.

In spite of this enormous outlay in Great Britain and Ireland for police, there has been lately, especially in London, a dangerous epidemic of ruffianism. A few nights ago I walked from the door of Comb Hotel to the Marble Arch

with Mr. Frederic Harrison, and when I left him near his home he especially cautioned me to take a cab to my hotel, and added that he considered it unsafe for anyone to walk the streets of London late at night alone. He said that the present condition of affairs is the result of the example of unpunished lawlessness and an insufficient police force in the city. Not long ago outrageous assaults and murders, or, to say the least of it, suspicious deaths, became so frequent in a particular part of the Thames embankment that a question was asked on the subject in the House of Commons. To look over the police news you would think the laws were framed on purpose to encourage brutal personal assaults, especially the assaults of men on their wives.

In the same paper I read the other day of one man getting a year for stealing a pocketbook with three pence; a servant girl was sent for five years for pilfering some trifling article, and a man was given a month for stealing "a bottle of colored water, value of two pence." In the same column a man "with a violent temper," for striking and then shooting twice at his wife was discharged, while a second man was simply bound over to keep the peace in his own recognizance for three months for brutally beating his wife and afterward throwing her downstairs and throwing kerosene over her. Brutality, when it can be practiced with long odds in favor of impunity, seems to be the ideal pastime of the low Englishman. This is the style:

In the sunshine I'd be basking,
All that week gone drunk to bed;
An this night her came a asking
Where she'd get her children bread.
Well, of course, for this I licked her,
And, as I was heavy shod,
I next knocked her down and kicked her,
And for this I went to quod.

And I have no doubt those brutes lament over the light sentences which they can "do on their 'eads" and the

occasional interference with their ideal pastime in this frame:

It's a namby age we live in,
With our joys they interferes;
Homely sports we have to give in,
Or we in the dock appears.

Some of the leading journals have already commented sharply on these light sentences. "It is," said one the other day, "the outbreak of a spirit of sheer ruffianism, which has taught itself to believe that it has but little to dread in the way of penalty, since there is always a chance of getting off altogether, and always something like a certainty of getting light enough punishment if absolute escape is impossible." These are some of the facts about English pauperism and crime. Such facts are not often published in the newspapers here, and the difficulty in obtaining Parliamentary documents, from which nearly all the figures I have presented were taken, is much greater here than at home. They are not distributed free, but the British Government charges a good round price for them. While the alarming number of paupers are not decreasing and some classes of crimes are increasing, it is gratifying to know, from Mr. Gladstone's budget, that the drink traffic is decreasing. May the effect of those who are laboring against intemperance bear a still greater harvest during the next decade. They have already reduced the revenue from drink. Let us hope evidence of the good work will next be seen in the decrease of pauperism and crime. May God speed it.

LIV.

THE TERRORS OF THE COAL-MINES.

It has been said that coal is the mainspring of modern material civilization. Indeed, Professor Jevons has even

denied our favorite boast that this is the age of iron, declaring that coal commands this age—the age of coal. In England coal, in truth, stands not beside, but entirely above all other commodities. It is the material energy of the country. England has grown rich and numerous upon this source of wealth. Over 500,000 of its inhabitants are at the present moment employed under what is called the coal-mines regulation act. During my stay in England this time I have visited the principal cities of the five great coal regions of England and Wales, and if one may judge from some of these great centres of wealth and wretchedness, the melancholy fact once claimed by an eminent English writer, that the whole structure of England's rich and refined civilization is built upon a basis of ignorance, pauperism, and vice, is indeed too true.

As late as fifteen years ago a scientist wrote: "At present it may almost be said to be profitable to breed little slaves." It will probably surprise many persons on the other side of the Atlantic that in Scotland coal-miners were held in a state of actual and legal slavery down to the year 1799—only eighty-three years ago—when the act of George III., chap. 56, was passed, by which the colliers in Scotland were declared free from servitude. Within the memory of the people in the towns I have visited, and the coal districts I have passed through, women were literally employed as beasts of burden. One of England's most recent historians tells us that where the seam of coal was too narrow to allow women to stand upright, they had to crawl back and forward on all fours for fourteen or sixteen hours a day, dragging the trucks laden with coals. The trucks were generally fastened to a chain which passed between the legs of the unfortunate women, and was then connected with a belt, which was strapped round their naked waists. Their only clothing often consisted of an old pair of trousers made of sacking, and they were uncovered from the waist up. Unsexed almost literally some of them became, for their chests were often hard and flat as those of men. Though women

are not allowed in the mines now, the descendants of these hardened creatures still work around and about them, and I observed them especially in Wales and in the Black country, stolid, animal faces, with shoeless feet and uncovered legs and arms, begrimed with clotted filth. Indeed, savage-featured, reckless, dirty men and women, whose main enjoyment seems fighting and carousing, form the chief attraction of the richest coal-mining localities.

It is not, however, to this phase of the subject that I wish to call attention, but to invite the reader to accompany me in a bird's-eye view of the coal regions of England and Wales. In subsequent letters I hope to take up, according to their importance, the other great industries on which England's industrial and commercial greatness is founded.

In 1259 Henry III. granted a charter to the freemen of Newcastle-on-Tyne for "liberty to dig coal," and yet at the commencement of this century the quantity of coal annually raised in Great Britain did not exceed 10,000,000 of tons. The five principal coal fields of England and Wales are those of South Wales (which runs into Monmouthshire), North and South Staffordshire, South Lancashire, the Notts, Derbyshire, and Yorkshire coal field, and the great Northern field of Durham and Northumberland. The coal field of South Wales is, with the exception of that of the Clyde Basin, the largest in Britain. Its general form is that of an oval basin or trough, lying nearly east and west. The Bay of Swansea and Cardiff (the latter city a creation of the rich Bute family) form the principal outlets for this coal. Among the barren hills of the Taff in the northeast corner of Glamorganshire, stands the city of Merthyr-Tydvil, with a population of 91,000. The population has decreased in the last decade. Over a century ago the first iron-works was started here. It should be seen by the glare of the furnaces by night. It is dirty, irregularly built, badly managed; no roads, no footpaths, no supply of water. The quantity of coal annually raised in this coal-basin is about 17,000,000 tons. At the rate of production the supply is sufficient to last about 1,800 years.

The South Staffordshire coal field extends from Clent Hills on the south to Brereton, near Rugeley, on the north, a distance of twenty-one miles, and is of average breadth of seven miles. The North Staffordshire coal field, though of smaller area, has vastly greater resources. These latter fields extend through what is called the Black Country—a district covering about thirty miles of barren soil, beneath which are rich crops of coal, iron and stone. The important towns of this region are Dudley, with 87,407 population, raised into importance by iron and coal works; Wednesbury, with 124,438 population, almost wholly engaged in the iron trade; Wolverhampton, an ancient town founded by King Egbert's sister, now the capital of the "iron trade" and of the "Black Country" and containing 164,303 inhabitants, and at the extreme southern ends of Birmingham and Coventry.

The principal cities in the South Staffordshire coal districts are Stoke, the busy capital of the Staffordshire potteries, with a population of 152,457; Hanley, also in the pottery district, in which the iron trade is becoming an important feature; and Stafford, a straggling town with curiously named streets and famous for boots and shoes. These two great coal-fields produce annually over 14,000,000 tons of coal.

The third great coal-bearing tract is that of North Lancashire (including East Cheshire). It is very irregular in outline, and consequently difficult to describe. It may, however, be said to occupy a band of country lying east and west, sending offshoots at intervals into the Trias and Permian formations on the south and into the lower carboniferous strata which forms its mountainous limits on the north. The extreme length from Bickerstaffe to Staleybridge is thirty-two miles, and the average breadth six miles. The principal cities in this region are Manchester and Salford, forming one great town, the metropolis of the cotton trade; Blackburn, as early as the seventeenth century, celebrated for its "checks" and unbleached "grays;" Burn-

ley, a thriving modern town on an old Roman station; Wigan, famous for cannel coal, tall chimneys, and a church built in Edward III.'s reign; Bolton, a city in which as early as 1760 cotton velvets and muslins were first manufactured on a large scale by Arkwright's machinery; it was here, too, that Lord Derby was beheaded in 1651; Oldham, a noted manufacturing town, whose inhabitants seemed rough, hearty, and industrious, and Rochdale, the principal centre of the flannel trade. About 18,000,000 tons of coal are raised in Lancashire; an increase of nearly 5,000,000 tons on ten years ago. Lancashire contains the deepest coal-mines in the British Isles—that of Rose Bridge, near Wigan, 806 yards in depth, and that of Dukinfield in Cheshire, on the confines of Lancashire, 717 yards; while there are several shafts varying from 400 to 600 yards in depth in the western part of the coal-field. Several large firms also raise from their own pits nearly one million of tons of coal yearly. In this district mining operations are conducted on a large scale, and with the most perfect mechanical appliances.

The fourth great coal-field is that of Notts, Derbyshire, and Yorkshire, and though forming parts of these shires, is physically one. It is the largest coal-field in England, and about 150 square miles smaller in area than that of South Wales. The produce of this field has bounded forward during the last twenty years, having increased from about 12,500,000 tons in 1860, to nearly 26,000,000 in 1880. The available supply in this field, I was told, would exceed 27,000,000,000 tons.

The great northern coal-field of Durham and Northumberland extends from Staindrop, near the north bank of the Tees, on the south, to the mouth of the Coquet, where it enters Alumouth Bay, on the north, the distance being nearly fifty miles. Notwithstanding that the great northern coal-field has been drawn upon more heavily than any other of the British coal-fields, and for a longer period, the produce has rapidly increased during the last quarter of a

century. This is partly due to the creation, and prodigious expansion of iron manufacture along the estuary of the Tees, which has its center at Middlesborough, and partly to the enormous demands from London. In 1859 the produce from this field was about 16,000,000 tons, to-day it is double that, or 32,000,000 tons. A glance at the following table, which I have prepared from the latest official statistics, will show the ground already covered:

THE PRODUCTS OF THE MINES.

	Annual Product.
First Coal District—South Wales.....	17,000,000
Second Coal District—North and South Stafford.....	14,200,000
Third Coal District—Lancashire.....	18,000,000
Fourth Coal District—Notts, Derby, and Yorkshire.....	26,000,000
Fifth Coal District—Great Northern.....	32,000,000
	<hr/>
	107,200,000
Annual product of Scotland and Ireland, say.....	20,000,000
	<hr/>
	127,200,000

Leaving only about 8,000,000 tons, if we take Mulhall's annual estimate of 135,000,000 tons, for the mines located in the counties of Westmoreland, Cumberland, Leicester, Shropshire, Gloucester, Somerset, and in North Wales. I have included the product of Warwick, in Staffordshire, that of Cheshire, in Lancashire, and that of Monmouth, about 5,000,000 tons, in South Wales. Of the 20,000,000 tons for Scotland and Ireland, over 19,000,000 must be put down to Scotland, and it is estimated there remains in these coal basins for future use about 9,643,000,000 tons. Below is a table showing the amount of coal in tons, to the depth of 4,000 feet, remaining in the several coal mines of England at the close of 1880:

Name of Coal-field.	Millions of Tons.
South Wales.....	32,166
Forest of Dean.....	260

Bristol and Somerset	4,210
Warwickshire.....	445
South Staffordshire.....	922
Leicestershire.....	826
North Wales.....	1,985
Anglesea	5
North Staffordshire.....	3,680
Lancashire and Cheshire.....	5,165
Midland.....	12,000
Great Northern	7,152
Cumberland	400
Scotland.....	9,643
Ireland	150
Total amount remaining in visible coal-fields in Great Britain ..	79,009

In addition to the above there is supposed to be 56,000,-000,000 tons in concealed coal-fields at depths of less than 4,000 feet, making a total of about 135,000,000,000, the presumable quantity of coal in reserve in the year 1880 at depths not exceeding 4,000 feet. If drawn upon at the present annual rate it will last about 1,000 years. Professor Pumpelly has shown us that in the United States the consumption of anthracite is about 30,000,000, and of bituminous about 40,000,000, making a total of 70,000,000 tons. This, if added to the output of Great Britain and the rest of the globe, makes the total annual coal product of the world about 300,000,000 tons, of which over two-thirds represents the product of Great Britain and the United States. "Thus mankind," says an eminent scientist, "by his progress in the arts, is gradually restoring to the atmosphere the carbonic acid which was extracted there from during the carboniferous period. Much of this is taken up and utilized by vegetation; but as it is probable that the consumption of vegetable matter is at least equal to the growth, there is a tendency toward deoxidation."

The coal and iron region of Staffordshire, including Bir-

mingham, Wednesbury and Wolverhampton are celebrated throughout the world. Of late years the city of Birmingham has greatly improved, yet the working population in and around this town are in a very sad condition. According to Mr. Hawkes, a Birmingham Justice of the Peace, the condition of the artisan population, and of the multitudes of families and young persons of that city is almost as deplorable in the vast majority of instances as the condition and circumstances of the poor nailers in Worcestershire. There were more than 100,000 of the 400,000 population of Birmingham living in back courts, and the condition of the houses, if they might be called houses, in those courts was simply shocking, so deplorable, in fact, that the brother of the Right Hon. Joseph Chamberlain has instituted an inquiry into the condition of these houses and the plight in which their inhabitants live. The rates of wages in some of the industries in Birmingham and in the United States may be seen from the following summary:

MACHINES AND MACHINERY.

United States. Weekly Wages.	England. Weekly Wages.
Blacksmiths \$15 50	Blacksmiths \$8 25
" helpers.... 10 50	" helpers.... 3 60
" y. p..... 3 00	" y. p..... 2 20
Boiler makers..... 13 75	Boiler makers..... 7 75
Core makers..... 14 00	Core makers..... 7 75
Engineers..... 13 75	Engineers 7 75
Finishers..... 11 00	Finishers..... 8 75
Firemen..... 9 00	Firemen 4 50
Furnace men..... 12 60	Furnace men..... 6 75
Helpers..... 9 00	Helpers..... 5 50
Holders-on..... 10 25	Holders-on..... 5 00
Laborers..... 9 30	Laborers..... 5 00
Machinists, men..... 13 00	Machinists, men..... 8 00
" app. m..... 8 50	" app. m..... 3 25
" app. y. p..... 6 00	" app. y. p..... 1 75
" helpers..... 9 00	" helpers..... 5 30
Moulders..... 15 50	Moulders..... 8 75
Pattern makers 14 60	Pattern makers 8 40
Riveters..... 15 75	Riveters..... 7 50

METALS AND METALLIC GOODS.

United States. Weekly Wages.	England. Weekly Wages.
Burnishers. men.....\$15 00	Burnishers, men.....\$7 25
Core makers, m.....14 00	Core makers, m.....7 50
Engineers.....12 75	Engineers
Finishers.....14 50	Finishers.....7 00
Fitters.....15 00	Fitters.....9 00
Forgers.....12 75	Forgers.....9 50
Furnace men.....11 50	Furnace men.....6 75
Grinders.....12 00	Grinders.....7 75
Hafters.....12 00	Hafters.....6 00
" y. p.....3 75	" y. p.....2 50
Hammermen.....24 00	Hammermen.....5 75
" helpers.....11 00	" helpers.....6 75
Lacquerers, w.....4 50	Lacquerers, w.....2 35
Moulders, m.....15 60	Moulders, m.....9 50
Moulders, y. p.....10 30	Moulders, y. p.....3 20
Pattern makers.....17 00	Patternmakers.....9 00
Smiths	Smiths
" 17 25	" 6 25

LV.

SHEFFIELD—A GLOOMY EREBUS.

It was a bright, sunny day when I entered the old town of Sheffield, and from Perristone to the great manufacturing district itself, the surrounding landscape presents all the softer graces in a district uneven but not mountainous. Close and well-wooded valleys with streams glittering through them; hills appearing from behind other hills of nearly equal altitude, some bearing masses of wood and others studded with cheerful villas and views of wonderful extent and beauty on all sides. Suddenly the blue sky and sunshine disappear and in the hazy distance the tall chimneys and the church spires of the centre of the steel trade loom up as it were in an amphitheatre of hills. In spite of the smoke and the mist of the dingy workshops and of the sooty, broken-down dwelling places, and in spite of the coarse-featured, shabbily-dressed men and women who

throng the narrow streets, all of which mar the natural beauty of the surroundings, the most casual observer can see the remains of a state of natural beauty which once made this district the favorite seat of nobility, and at one time so intimately connected it with the general history of the kingdom. Indeed all this neighborhood is associated with events of historical importance. But why waste space in depicting the beauties and the blemishes of this famous old town when it has been done with all the grace and classical knowledge of one of England's poets?

And Sheffield, smoke-involved; dim where she stands
Circled by lofty mountains, which condense
Her dark and spiral wreaths to drizzling rains
Frequent and sullied; as the neighboring hills
Ope their deep veins, and feed their caverned flames.
No ærial forms on Sheffield's arid moor
E'er wove the floral crowns, or smiling stretch'd
The shelly sceptre;—there no poet roved
To catch bright inspiration. Blush, ah, blush,
Thou venal genius of these outraged groves;
And thy apostate dead with thy soil'd wings
Veil: who has thus thy beauteous charge, resign'd
To habitants ill-suited; hast allow'd
Their rattling forges, and their hammers' din,
And hoarse, rude throats, to fight the gentle train,
Dryads and fair-haired Naiades; the song
Once loud as sweet of the wild woodland choir
To silence;—disenchant the Poet's spell,
And to a gloomy Erebus transform
The destined rival of Tempean vales.

The father of English poetry sang of the Sheffield knife, or "thwytel," in the fourteenth century; and since that time every historian, including Leland and Camden, and every guide book from Defoe's manual to the last half-crown illustrated guide to Sheffield, have spoken of Chaucer's Miller and the "Sheffield thwytel" which he bare in his hose. The antiquity of Sheffield's great industry has therefore been

satisfactorily settled. But for all that Sheffield did not strike the old chroniclers as very much of a place, and as late as the eighteenth century the neighboring town of Rotherham, now with only 35,000 inhabitants, was ahead in the race, and in those days "Sheffield near Rotherham" was not an unheard-of address. Leland, after quoting the Chaucer lines, says of Sheffield: "It is a large, circular, closely built, smoky market town at the foot of high hills." Camden in the seventeenth century devotes about fifteen lines to Sheffield and Rotherham. The former he said was "a town famous for iron-works and defended with an ancient and strong castle," while the latter was only noted for being the birth-place of Thomas Rotherham, Archbishop of York. Another old writer says: "In Rotherham be very good smithes for all cutting tooles." Defoe in the eighteenth century devotes two pages in his manual to Sheffield and describes it as "a very populous and large town with narrow streets, houses built of stone looking black by the continual smoke of the forges which are always at work." Of its trade, he adds: "Sheffield is reputed to excel Birmingham in cuttary-ware and files; Birmingham is allowed to out-do Sheffield in locks, hinges, nails and polished steel." Defoe also gives us the first statistics, that "no less than 40,000 hands were employed in the iron trade in Sheffield and the adjacent tract of land called Hallamshire."

Leaving the station you cross a viaduct something like that of Holborn, London. On the left are a lot of little wooden shanties used as offices, and on the right a sort of wholesale vegetable market, about as untidy as that on Randolph street, Chicago. Here old women may be seen buying potatoes, carrots and cabbages and tying them up in large spotted cotton handkerchiefs. As you enter the centre of the city one of the first things that strike a stranger is the "cook-shops" on the London plan. The smoking-hot meat and the steamed pudding are placed in the window and carved in the sight of the hungry street arabs, who congregate to buy pennyworths of pudding, which is served to

them steaming hot on a piece of paper, and which they eagerly devour on the streets. The time to see the working classes of Sheffield is Saturday afternoon, when the narrow streets with their precipitous hills, are crowded. Sixty years ago it is said all the spring-knife cutters were knock-kneed from being underfed, and had long arms from the peculiar manner in which they worked. It can hardly be said they are underfed now, though a good many of them waste the money that should go for wholesome food and comfortable houses in beer and spirits. The workman on the streets, when "cleaned up," is dressed with a blue pilot jacket of a peculiar British workman cut, a billy-cock hat, a white or spotted handkerchief tied round his neck, and thick, hob-nailed boots. There is no mistaking him.

The dwelling-houses in the city of Sheffield itself are the most squalid I ever saw, not excepting Dundee. Some of them are mere dens built of stone, but since plastered over with gray plaster, now moss-grown with age, and roofed with layers of split sand-stone. They are irregularly built, the floors of some being on a level with the streets, while to enter the next house you must ascend one and two and even three steps to reach the "general room." The windows are as irregular, both in size and location as the doors. In some the narrow, old fashioned diamond pane exists; in others glass of a larger size is used.

Go to the top of Snow Hill, near St. John's Church, and another such view there is not, perhaps, in the world; old gable roofs, covered with moss and black with age; chimneys crumbling down with pots at every conceivable angle, some of them wretched places with every window-pane broken, with the roofs actually falling through, with the very walls crumbling down from age. There are wretched old lodging-houses in this city occupied by laboring men, which were built in 1710. The census returns of 1881 show that one-tenth of the houses of Sheffield are not inhabited, and in some quarters of the city the well-being of the people would be better served if one-half of them were vacant.

It is hardly possible that there is another town, even in England, with such a multitudinous array of courts and alleys. They exist literally on all hands, and one hesitates to explore them, lest, lurking in those dreary slums where the sun never shines, where ventilation is unknown and fresh air rarely penetrates, are all sorts of contagious disease. On the doorsteps of most of the houses in these courts and alleys and side streets, in strange contrast to the sooty exterior and the dark green or dark maroon shutters, are dabs of whiting. Within, the houses of course differ. Some I found to be wretched, filthy places, with the usual slovenly women and ragged, dirty children. Others presented a fair amount of comfort, but it is evident that these habitations have had a depressing effect upon the workman of Sheffield.

Said Dr. Webster, who has been United States Consul at Sheffield for twelve years:

“People earning their pounds a week are actually contented to live year after year, perhaps without a bedstead, and in just such houses as you have described.”

“How do you account for this?” I inquired.

“The workmen here,” he replied, “do not have the same ambition that our artisans at home have. They have no desire to rise. If they can earn enough to keep them in bacon, bread and beer, they are content. They indulge in betting and drinking. For instance, the grinders are a well-paid class of men, and just now the hollow-grinding branch of that business is having a ‘boom.’ They could easily earn £3 a week. But they won’t work. Saint Monday must be kept, and Saturday very little work is done, and the result is, as a large manufacturor told me the other day, that the employers are obliged to send thousands of dozens of razors to Germany in blank to be ground, while Sheffield men are drinking, dog-fighting and betting. They seem to have little care for the future. Many of them contribute to a ‘Burial Society’ and a ‘Sick Fund,’ and they know if the worst comes to the worst the workhouse stands ready to receive them.”

“Why not bring Germans here?”

“They would kill them.”

I afterward put this question to Chief Constable Jackson, who is the officer that broke up the secret assassination society of Sheffield in 1867.

“Would they murder foreign workmen?” said I. The Chief Constable replied with a significant nod: “That is rather a broad question, but they would probably crack their heads.”

It is hardly probable that the spirit of fifteen years ago has wholly died out in Sheffield. Then, if a workman has made himself obnoxious to the leaders of the local trades-union, it occasionally happened that some sudden and signal misfortune befell him. Perhaps his house was set on fire; perhaps a canister of gunpowder was exploded under his windows, or some rudely constructed infernal machine was flung into his bedroom at midnight. Men and women were actually murdered and the “organization of labor” was simply a vast conspiracy not unlike that recently discovered in Ireland. Sheffield was the town for the carrying on of this fearful work—the dark, narrow streets and courts, the low, wretched houses, the extreme difficulty of policing and lighting the city and of keeping the peace, all added to the difficulty of unearthing this plot. Indeed, some parts of Sheffield to-day have not greatly changed since the beginning of the century, when the gutters of the houses with protuding spouts discharged what they received on the heads of the passers-by; when the distant lamps dispensed but a feeble light. In those days Sheffield was “a poor, little, dirty, mean-built town; the streets were badly pitched, the sewers running down the centre, and but few causeways were flagged.” The old quarters of the city have not changed much since then. Most of these miserable slums belong to the Duke of Norfolk, whose total annual rental from Sheffield aggregates over one quarter of the true ratable value of all the property in the township of Sheffield. In this calculation I have added twenty-five per cent on the

ratable value of the property as returned for taxation in the report of the Local Government Board. The total annual rental of this Duke is nearly \$1,400,000. Instead of building comfortable homes for the thousands of working-men, who are his tenants, he lets them live in the rookeries described. In fact, all enterprising men avoid the Duke's land, and the city is extending in other directions, among the beautiful hills, while the thrifty mechanics have opportunities of finding better homes away from the old part of the town which is deservedly falling into decay.

Of course the description I have given only applies to old Sheffield. Besides the new part of the town there are many beautiful suburbs, which make excellent homes for those who can afford to live outside of the town. It cannot be said that Sheffield has any handsome public buildings. Unlike its sister cities, Leeds and Bradford, it does not run much to town halls and high spires but contentedly jogs along with an inferior, gloomy-looking town hall, which has been added to from time to time as the growth of the town required. The Duke of Norfolk has erected an enormous building, used as a public hall and as offices for "the Norfolk Estate," and which stands out in bold relief in the midst of the broken-down one-and-two-story black-stone-and-mottled plaster buildings of his tenants. Ever mindful of the needs of the toilers who live in ill-ventilated and unrepaired houses, he has provided, in one corner of his great public building, a gorgeous gin-palace, the stained glass gilding, brightly painted barrels, polished brass and pewter, and glaring streams of light from which tempt his tenants from the shadows of their dismal homes and cheer them with beguiling gin and beer.

LVI.

LABOR AND WAGES.

IT is a very difficult task to say exactly what a Sheffield man will earn. I have already shown that what he can earn is one thing and what he does earn is another—that the difference is generally about 33 1-3 per cent. That is to say, a grinder who can earn 60s. a week, or \$15, earns about \$10—perhaps, taking the year round, less than that. The laborer in Sheffield earns from 16s. to 20s. a week, or from \$4 to \$5. The figures which I shall present in the following tables are based upon statements originally obtained from the counting-house of the manufactories by Dr. Webster, the United States Consul. They have never been printed before, and the Consul kindly permitted me to copy them from office records. By inquiries of manufacturers and by verification in my conversation with the workmen, and a comparison with some recent returns made by the Board of Trade, I have revised them and I think the following may be said to be the average present weekly earnings of the thrifty workman of the Sheffield district who works full time :

IRON-FOUNDING.

Puddlers*	.....	\$7 50	Bogiemens.....	\$5 35
" Underhand.....	5 50		Hammerdrins.....	7 50
Shinglers or hammermen*	12 00		Patternmakers.....	7 00
Assistant "	8 00		Moulders.....	7 50
Ball furnacemen *	12 00		Fitters	7 00
" Underhand.....	6 00		Laborers.....	5 00
Charcoal lumpers	12 50		Iron nailers.....	9 00
Rollers*.....	12 75		Spring fitters.....	9 00
" Assistant.....	7 00		Assistant.....	5 00
Metal refiners.....	11 00		Tire rollers.....	4 00
Plate rollers*.....	14 50		Machinist (best).....	8 50
Firemen	7 50		" (ordinary).....	7 50
Furnacemen*.....	12 50		" (inferior)	6 00
Forgemen*	13 50		Rivet boys.....	1 20
Levermen.....	7 50		Engineers.....	7 00

*Piece-work.

ELECTRO-PLATE TRADE.

Stampers.....	\$8 00	Buffers (women).....	\$4 00
Piece workers.....	8 00	Chasers.....	9 00
Braziers.....	8 50	Engravers (women).....	9 00
Buffers.....	7 50	Burnishers.....	2 50

BRITANNIA METAL

Spinners.....	\$12 00	Makers-up.....	\$8 00
Stamper.....	7 50	Burnishers (when plated).....	2 50
Casters.....	7 50	Rubbers (girls).....	2 50

STEEL MANUFACTURE.

Melters.....	\$15 00	Coker.....	\$6 00
Turners.....	9 00	Pot makers.....	9 00
Fitter out.....	9 00	Collar lad.....	3 75

FILES.

Forgers.....	\$10 00	Grinders.....	\$10 00
Strikers.....	8 00	Cutters.....	9 00
Hardners.....	7 50		

SAWS.

Long and circular saw smith.....	\$11 00	Grinders.....	\$11 00
Short do.....	8 25	Handle workers.....	9 00

EDGE TOOLS.

Forgers.....	\$12 00	Grinders.....	\$12 50
Strikers.....	9 50	Hardner.....	6 50

SHEEP SHEARS.

Forger.....	\$10 00	Assistant.....	\$5 00
Striker.....	7 50	Hardner.....	6 50
Grinder.....	11 00	Bender.....	8 00

HAFLERS.

Iron.....	\$7 50	Others.....	\$5 50
Bone.....	7 00		

POCKET CUTLERY.

Forgers.....	\$7 00	Hafters.....	\$6 50
Grinders.....	8 00		

TABLE CUTLERY.

Forgers.....	\$7 50	Grinders.....	\$8 00
Strikers.....	7 00		

TABLE FORKS.

Forgers.....	\$6 50	Filers (women).....	\$2 50
Grinders.....	6 00		

SCISSORS.

Forgers.....	\$12 00	Holers and handmen.....	\$6 75
Grinders.....	12 00	Burnishers (women).....	3 00
Filers.....	7 50	Dressers (women).....	4 00
Putters together.....	7 00		

RAZORS.

Forgers.....	\$12 00	Hافتers.....	\$9 00
Strikers.....	10 00	Putting-up women.....	2 50
Grinders*.....	12 50		

It will be seen that the very highest earnings are \$14 50 a week, but that the general average weekly earnings of skilled labor in these trades is from \$6 to \$12. Unfortunately I have no statement of the wages paid in the same branches of manufacturing in the United States, though I have no doubt the Disstons of Philadelphia or some of the large cutlery firms would furnish such a schedule. According to Carroll D. Wright's last report (see pages 423 and 424) iron and steel workers in Massachusetts are paid as high as \$28 87; laborers make about \$10 a week; skilled hands average about \$15 to \$20; and a careful examination and comparison, I think, will show a difference of from 50 to 75 per cent, and in some cases 100 per cent, in the wages paid in the two countries. Of course the calculation could be made with a greater degree of exactitude if as complete a statement for the United States is obtained as above presented for the United Kingdom. I feel sure that the above figures lean toward the English manufacturer.

* Hollow-grinders can earn \$15, but they are exceptional men and must work long hours.

The actual book accounts of any Sheffield firm I think will not show quite the average amount indicated above paid out to each man for every week of the year. The rates given mean sixty hours steady and hard work—not a lost hour. They also mean the most skilled mechanics. Exceptional cases might be given, perhaps, of men earning more, but the average weekly earnings for twelve months would probably be 10 or 15 per cent less than the above, counting in lost time, holidays, etc.

With such wages as indicated by my tables, Dr. Webster says that few of the workmen own their houses, and that as a rule most of the week's salary has gone by Tuesday morning, when a good many of the grinders go to work. Prices have fallen during the last twenty-five years, as labor is paid less, with perhaps the single exception of hollow grinding. The trade of Sheffield has undoubtedly fallen off, especially with the United States. Owing in part to the indifference of Sheffield workmen, who will not start a new line of goods until pushed out of the market, and in part to American ingenuity, it is not an uncommon thing for Sheffield to ship grindstones to Philadelphia to grind American saws, which are imported to England and sold side by side with Sheffield goods. In some lines of edged tools and cutlery the United States excels Sheffield.

I have endeavored to give a picture of the Sheffield of to-day the sixth largest town in England, with a population of nearly 300,000. For steel Sheffield is still the world's great work-shop, and it is estimated that nearly \$20,000,000 worth of steel is annually made in the Sheffield district. I have no space even to enumerate the number of trades carried on in this busy hive of industry, nor can I give but a meagre idea of the progress made since the early part of the present century, when the cutlers of Sheffield used to meet at Tommy Rose's, "The Bird in Hand." The business was conducted on pack-horses. When a buyer arrived the ostler would go round and notify the manufacturers. In those days the poor pack-horse went shambling along cross-roads,

fording rivers, and climbing steeps. At a tinkle of a bell the traders came out from the inn and the bargains were made, the money paid, and the goods delivered. The cutlers' annual feast cost a few pounds, and home-brewed ale was the chief beverage. Sunday tipplers were put in the stocks. The good old dames, so big were their hoops, were steered into church with some difficulty. People were incarcerated in jail for debts and alehouse scores, and the prisoners worked at their trades, hammering and filing away all day. Places in the London stage coach had to be engaged three weeks ahead, and a journey to that great city necessitated making one's will. Apprentices lived in their masters' houses, and were little better than household drudges. The "old smithy" of those days has disappeared, and the factory and the factory act have taken its place. Within the memory of the living, bulls were publicly baited in Sheffield, and amid noise and clamor, passing gibes and cursings, and the yelping of dogs, "good game" might be had at "threepence a ship" for the dogs. These were fitting sports for barbarous days. In spite of the drawbacks of the present day, and in spite of the many things we wish were otherwise, and in spite even of the innumerable opportunities for improvement in dwellings, in education, in morals, and in all that tends to a higher civilization, in short, with all his shortcomings, the Sheffielder of to-day is better off, if he wants to be, than his ancestors.

LVII.

A WALK THROUGH THE POTTERIES.

THE district of which this town is called the metropolis may be aptly described as "A Babylon of Crockery." Indeed, had I not been accompanied in my walks through "The Potteries" by Mr. Edward E. Lane, United States

Consul at Tunstall, and Col. Albert D. Shaw, United States Consul at Manchester, I should have lost myself even in the day-time in the series of dingy towns and most unrural villages that run into one another and sprawl for several miles along the bottom of what was once a picturesque valley. The Parliamentary borough of Stoke-upon-Trent, comprising a district of about ten miles by three, contains most of the pottery towns and villages, all of which are adjoining and forming really one large scattered manufacturing town, containing an aggregate population estimated to exceed 200,000. The chief towns of the district are Hanley, with a population of 50,000; Burslem, with, 30,000; Longton and Lane End, with 20,000; Stoke-upon-Trent, with 20,000; Fenton, with 15,000; and several other villages of less importance. Take a good map of Staffordshire and make a rectangle of four by seven miles and you have within an area of less than thirty square miles the pottery districts of England, in which seven-tenths of the pottery is made, employing 50,000 persons, with an invested capital of over \$10,000,000.

The other noted pottery localities in England are Lambeth, Worcester, Coalport, Broseley, and Watcombe; but of the 517 pottery establishments in England and Wales, according to a calculation recently made by Consul Lane, 305 are in this district, and they are more extensive than those elsewhere, some, like Minton's at Burslem, employing 2,000 hands. Mr. Lane's estimate is as follows: Tunstall, 20; Burslem (including Cobridge), 85; Hanley, 65; Stoke 20; Fenton, 25; Longton, 90; total 305. To show how much more concentrated the English trade is than that of the United States, and how much more nearly a monopoly it is, I need only say that there are in the United States 686 establishments, employing less than 10,000 hands, against 305 in Staffordshire, employing 50,000 hands.

Accompanied by the Tunstall and Manchester Consuls, I walked through all the pottery towns. These places stretch and straggle along continuously. The whole district bristles

with kilns of every conceivable shape and appearance, some like pyramids, some like big bellows without a nozzle, some like high-shouldered case-bottles, some like the typical American whisky-jug; in short, "some are ringed with with bulging rims; some are varicosely veined with capriciously diverging cracks; some are castellated; some are pierced at the top as if for musketry; some push out their plump proportion at an angle between two flat walls, like the corner towers of castles." The work-people all wear wooden shoes, which clatter on the footpaths. Public-houses and meeting-houses are alike plentiful. Steam tram-cars toil up the hills and rumble down with brake-locked wheels. "Donkeys," says Dr. Rowe, "with unpainted milk-cans, like magnified tea-canisters, rumble by; milk-men bearing green milk-cans in their hands, and milk-women dragging green milk-cans mounted on wheels trudge along. Coal-carts, red, black and blue, everywhere grind through the mud, or jolt over the frozen ruts." Canals, with long narrow barges floating on pea-soupy water, run alongside the potteries and litter their wharves—scored with narrow tramways and tiny turn-tables—with Cornish clay, coals, bones and flint. Everywhere there are potteries. Smoke, soot and flames make the air heavy. The cows and donkeys look melancholy and dusty. The yards and the streets are littered with mounds of smashed crockery and cracked "saggers."

On all sides of the waste ground are little streets, with old and miserable houses in which the potters live. We walked up and down scores of these streets in all the towns and found them much the same. The wages paid the great bulk of the potters only permit of their paying from 2s. 9d. to 3s. (75 cents) a week house rent. They live in one room, in which washing and ironing, eating and, not infrequently, sleeping are done. The majority of the houses on these streets are anything but tidy and cheerful. Slovenly women and dirty, ragged children came to the doors of the houses as we passed along, and the mere fact of three

respectably dressed men walking through these streets excited the astonishment of the entire neighborhood, and a curious crowd followed at our heels.

Mr. Lane informed me that the majority of the potters lived in this class of houses, which seem to be worse at Hanley and Longton than in the other towns. Of course there is a class of operatives who earn better wages and live in more comfortable dwellings, but the bulk of them reside in badly-ventilated, small houses. They rarely accumulate anything and seldom or never own their houses. A great deal of money is spent in drink. The chief recreations are during the "wake seasons." In the potteries there are two kinds of wakes—the Stoke wakes and the Burslem wakes. At these times the potter will quit work for perhaps two weeks, or until all his money has been spent. He gives himself up to play. All sorts of shows come to town and establish themselves on the grassless vacant lots. Fat women, living skeletons, double-headed children, shooting, ball-throwing, merry-go-rounds, "sailing boats," minstrels, all sorts of curiosities and oddities and a general carnival of drink constitute these wakes. The entire business of the district is at a stand-still during these times.

Years ago Sunday used to be a fair-day in the potteries, but I was told that now it was almost as quiet as a Glasgow Sunday. Dr. Rowe says that many of the potters are Methodists. A Sunday love-feast, as he describes it, would be a curious surprise to an American. The very date of the conversion is given, and the confessions of faith are unique. One brother spurned the thoughts of "blowin' up the hashes of a hextinguished hexperience." A second began: "Ah'm happy to see that ah know ah'm a sinner—preese the Lord." A third: "Ah ken't mek foin spee-aches loike soom folk." A fourth: "Ah ken't se as ah wor born o' pious parents, but ah went to schule wi Jesus Chroist, an' He teached me hall ah wahnt to know."

Fifty years ago, instead of religious experiences, cock-

fighting was the amusement. Ask any old potter about those days and he will reply:

“Theer wor cockin’ an’ dog-foightins ther. Ah’d rayther see a cock-foight than a dog-battle any dee. The dogs weely worry theirselves to reg’s, boot the cocks, if they’s any spoonk to ‘m, soon gets it ower. It moost be a game cockerel thaht ‘ull stahnd the stale. Ah’d one once fowt for an how-er an’ war hall coot hoop joost as if ye’d carved un.”

LVIII.

HANLEY—GROUND CLAY MADE PERFECT.

IT is not within the scope of this letter to explain the process of making pottery, which is very interesting, nor yet to describe the handsome showrooms, one of which (Minton’s) the guide assured us was “the finest showroom hin hall Hurup.” In this room may be found the choicest products of the potter’s art, truly “a congregation of ground clay made perfect.”

Such is the pottery district of England to-day. As far back as the beginning of the Eighteenth Century there was a manufacture of common cooking ware at Burslem. The art of producing the finest sorts was wholly neglected and they turned out nothing but a coarse porous ware called “butter-ware,” and Burslem was marked on the map as the “Butter Pottery.” Though possessing all the materials for the fabric of earthenware, England has hitherto depended almost entirely on the importation of a red, lustrous pottery from France, Germany and Italy. It was not until Josiah Wedgwood, with his skillful hand and artistic eye, began in this district that the industry attained any importance. In 1801 the population of this district was 23,627; to-day it is 200,000. Up to the time of Wedgwood there had been noth-

ing worthy of decorative art, of color, proportion, or form. A mixture of different colored clays, of rude outlines scratched in by a nail, a blue or brown edge-line, or a paste-like medallion luted to the surfaces, were the highest efforts of ornamental art. After all that had been done for the improvement of the different bodies, they were at best flimsy and indifferently glazed, the hue of the white ware was bad, and the forms and their adjuncts were ill-proportioned, often angular, and almost always without those flowing outlines that, while severely true to geometrical principles, show the utmost grace, delicacy and beauty, Wedgwood in his ware combined the imitation of the most beautiful forms of ancient art with unequalled cheapness. He inaugurated a system of improved designs, which made his ware superior to any other that had been produced in Europe for common uses. The old works, at Etruria, are still in use and are worth a visit. They are quaint and old-fashioned in appearance. Some additions have been made but nearly all the shops have low-roofed raftered ceilings, little square-paned windows, through which the light faintly comes, and in fact are precisely the same as when Wedgwood, in the fullness of his powers, directed the industrial forces and produced perfect and beautiful work.

The advantages enjoyed by the English manufacturers of pottery over the American are concentration of effort combined with an industrial existence of two centuries; the first century beginning with Burslem "butter-ware" and closing with the era of Wedgwood, and the second closing with Minton's magnificent show-room, with single plates costing \$150, with schools of art, with the Wedgwood Institute, and, withal, cheap skilled labor. At Minton's I saw artists working in the cooped-up rooms of the factory who would earn their thousands in the United States and be their own masters.

A very large proportion of the earthen and china ware, Parian and porcelain made in England finds a market in the United States, and this in spite of the fact of the rapid

strides we have made in their manufacture, which, however, have materially reduced the cost to the consumer. In the decade ending with 1882 no less than \$31,076,100 worth of those goods were exported to the United States from this district alone—averaging over \$3,000,000 annually. This does not represent our total importation, which in 1881 amounted to fifty-three per cent of what we consumed. The value of exports from England to all countries in 1880 was: earthen and china ware, Parian and porcelain (not including red pottery and brown-stone ware), \$9,902,275; brown-stone ware, \$2,759,440; clay unmanufactured, \$759,-790; clay manufactured, \$878,940; total value, \$14,400,445. The total value of the product, according to the census of 1880, of all the potteries, stone-ware and porcelain manufactories in the United States was only \$7,943,229, about half the value of the British exports for the same year.

The English manufacturers complain of the slight increase in the tariff on the finest class of goods and say it will work a great injury here. They frankly admit that the progress in this line of business in the United States has been wonderful. Says Mr. H. R. Fox Bourne in his history of pottery in England: "The trade may be said to have been fairly entered upon in 1870, and while Trenton already abounds in factories and bids fair to be the Burslem of the United States, the business is extending to East Liverpool in Ohio, Green-point, New York, and other places." General Tyndall, another English authority, in speaking of American enterprise in this line, said: "The prices of their wares are very low in relation to the cost of labor in the United States, The processes employed are of the most improved kind, and the potteries are well arranged, very orderly and highly commendable. All the materials used are found in the United States."

Of course England is still ahead, but the giant strides which the trade is now taking in the United States are not thought lightly of here. The wages paid in England are very low, far more than fifty per cent lower than in the United

States. Last year during a strike the employees published what they claimed was a true table of the average net earnings per man per week, with all deductions for attendance and other purposes. Summarized it was as follows. I have added the average rate of the Trenton operatives:

	£	s.	d.	Av'ge earnings in American potteries.
Flat presser.....	1	11	10—	\$7 70
Dish-maker.....	1	19	9—	9 62
Cup-maker.....	2	19	0—	9 92
Saucer-maker.....	1	12	9—	7 93
Hand-basin maker.....	1	19	11—	9 66
Hollow-ware presser.....	1	13	7—	8 14
Hollow ware presser jigger...	2	8	$\frac{3}{4}$	11 62
Printer.....	1	7	1—	6 55
Ovenman.....	1	8	4—	6 86
Sagger-maker.....	1	14	11—	8 46
Mold-maker.....	2	2	3—	10 23
Turner.....	1	13	1—	8 00
Handler	1	14	8—	8 39
<hr/>				<hr/>
Total average per man per week.....	£1	15	10	\$8 69
				\$18 50

The English workman, however, claimed that the part referring to the English trade was too high, and a careful statement was furnished Consul Lane in behalf of the men, showing that the average earnings were only £1. 11s., or about \$7.50, per week against \$18.50 in the United States. But I pointed out to Mr. Lane that these averages did not indicate the earnings of the majority of the potters in England nor in the United States, and I suggested to him that to complete the work, he should find out what proportion, say in one hundred, were hollow-ware presser jiggers, receiving \$11.62 a week, and what proportion were ovenmen receiving only \$6.86. In compliance with this request I have this morning received the following from Mr. Lane:

In an earthenware manufactory for making plain white goods, employing say 200 people of both sexes and all ages, including the skilled hands and their attendants, there will be on an average of men in the different branches of work,

as follows: Hollow-ware pressers 32; flat pressers 6; dish-makers 4; hand-basin makers 1; cup-makers 3; saucer-makers 4; handlers 2; turners 4; saggar-makers 5; ovenmen 21; mold-makers 3; total 85 of what may be called skilled workmen. If the ware made is to be printed, but otherwise of the same kind as above, 40 employees must be added for that department.

Here then are about three-fourths of the operators at \$8 14 and \$6 86 a week, if we take the employees' estimate (which is disputed by the men). Then the printers, of whom Mr. Lane, says there would be 40 in a factory employing 200 hands in white'ware, are the lowest paid of all—only \$6 55 per week. All three of these classes, aggregating undoubtedly over three-fourths of the entire skilled labor of the Pottery District, receive far less than the average. I have merely gone into these details to show the absurdity of averaging wages. The unskilled hands in those potteries make from 4s. or \$1, to perhaps £1, or \$5 a week.

"How much do you make?" said I to a dark-eyed young woman in the print shop.

"Ah moost do a many to mek oot mah dee's work."

How much money a week, I mean?"

"Oh, we doan't make more than ten shillins."

The only fair method of comparing wages is to take the same department of work in each country. For example, plate makers in England average \$7.50 a week; in the United States \$20.30. English dish-makers make \$9.62; Americans \$19.43. English cup-makers \$9.92; Americans \$19.67. And so on through the list. It is not so much in the skilled work that the British workman has cause to complain, but I have found throughout England that great suffering exists among the laboring classes and those whose work does not require much skill. For example, in the English potteries, according to the masters, the hollow-ware presser, the oven-man, and the printer (representing over three-fourths of the skilled labor) receive \$8.14, \$6.86 and \$6.55 respectively; while in the United States they receive

\$17.90, \$13.18 and \$13.67 respectively. In short, with the additional high pay in the United States for the unskilled labor, and for the lads and girls, it puts what I may call the bone and sinew of the trade on a living basis, where they can live comfortably and save money, own their homes and be men and women. It is this class that feel more severely than any other a reduction of wages, and it is this class, for they are after all the many, that give strength, character, and prosperity to a country. It is an undoubted fact that three-fourths of the people of the entire pottery district live on 25s. (\$6) or less a week per man. What can that buy them? Consul Lane has kindly given me an average estimate of the weekly expense of a man with a wife and two-children (a small family in England), whose income for the year round averages 25s. (\$6) a week. Here it is, and a perusal shows the grotesqueness of the cry of cheap clothes. Admitting there is any difference in the price of the common grades of clothing (which I begin seriously to doubt) at home and here, the bulk of English potters, according to their own statements, have but 50 cents a week to invest, aside from actual cost of keeping body and soul together:

	s. d.		s. d.
Rents	3	Tea (2s. lb).....	1 6
Rates.....	4½	Sugar (3½d. lb).....	1 2
Club	5	Soap (3d. lb).....	6
Coal.....	2	Flour (2d. lb).....	6
Bread.....	4 1½	Candles (6d. lb).....	3
Bacon (8d. lb).....	1 4	Milk (4d. quart).....	4
Cheese (6d. lb).....	1 4	Tobacco.....	5
Butter (1s. 4d. lb).....	1 4	Beer.....	1
Potatoes (3 lb 1d.).....	5	Clothes.....	2
Butchers' meat (8d. lb). 3			
		Total.....	£1 5 00

I have endeavored, imperfectly I know, to ascertain the real condition of the English potters, and, at least, the facts presented are worth a careful examination, especially by the American workman. He ought to feel sure of his present condition before he takes the leap in the dark.

LIX.

BIRD'S-EYE VIEW OF ENGLAND'S FACTORIES.

THE present letter may be called a bird's-eye view of the distribution of the principal industries. Before we can compare the several industries of Great Britain with those in the United States, it is necessary to have clearly in mind the important matter of distribution, and a careful study will reveal that entire regions of country in Great Britain have, in some instances, for centuries, been given over to the production of certain classes of manufactured goods. Another important element that must be considered is that frequently in England the father, the grandfather, and the great-grandfather have followed a certain line of business, and workmen are consequently, as a rule, more expert, owing to the fact that they and their ancestors have been so long engaged in the same handicraft. The great variety of these industries, in an area but little larger than Illinois, must be borne in mind, and if at times this letter may seem a little wearisome, the reader must remember that when I come to a comparison of the number of hands employed, the wages paid, the annual product, the material used, the manner the artisans live, the comparative rates of wages paid, and the other more interesting elements of the question, some knowledge of the distribution of industries in the two countries will be of the greatest value.

It takes a map with 140 symbols, each indicating a separate industry, to give a bird's-eye view of the industrial condition of the English people. I have such a map before me in giving the present summary of the industries of England. These industries are scattered thickly over the island, and, with the exception of North and West Wales, Devonshire, Sussex, Lincolnshire, the East Riding of Yorkshire, and a strip of country beginning at Preston, in

Lancaster, and running northward into Westmoreland, and thence through Southern Cumberland into the northern part of Northumberland, the whole of England is thickly dotted with manufacturing centers of all kinds. With Scotland the case is different, and if we were to take a strip of country forty miles wide, from the Firth of Clyde on the west to the Firth of Tay, and the Firth of Forth on the east, the rest of the country might be said to be agricultural. In Ireland the manufacturers cluster in sickly spots around Dublin, Drogheda, Dundalk, Belfast, Londonderry, Sligo, Galway, Limerick and Cork, hardly venturing into the interior.

The manufacture upon which Great Britain rests her reputation most completely is unquestionably that of iron and steel, which is carried on to a very large extent, but as I have touched on this branch of the subject already in a letter exclusively devoted to the iron and steel manufactures of England, it will not be necessary to enter into details now. England produces about six million tons of pig iron annually, the largest portion of which comes from the great Cleveland district, the second most important district being that of South Wales, the Merthyr Tydvil region. Copper is smelted almost exclusively in four counties, Glamorgan, Caermarthen, Anglesea, and Lancaster. W. and A. K. Johnston have recently published a statistical atlas of England, Scotland and Ireland, which has been edited by G. Phillips Bevan, and in which are summarized the results of the last British census (1881). From this magnificent book, together with the information obtained by visiting the principal industrial centers of the Empire, I am enabled to give some idea of the industrial condition of Great Britain at the present time.

The various branches of trade which ramify from the iron manufacture are very numerous, and engineering and machine-making may be said to rank first. Nearly all the great seaports of England, and many of the inland towns as well, have an engineering or locomotive factory on a large

scale, though Manchester and Newcastle are pre-eminent in this respect. Iron ship-building thrives most on the Clyde (Glasgow), the Tyne (Newcastle), the Mersey (Birkenhead), and the Wear (Sunderland), while it also prevails to a great extent at Hull, Bristol, Chester, Southampton, and other ports.

Agricultural implement making in England, as in the United States, naturally seeks the inland towns, and, while in Illinois it has brought prosperity and wealth to such towns as Rock Island, Moline, and Rockford, so in England it has largely developed many towns in the eastern or agricultural part of the kingdom.

Of the smaller branches of the manufacture of iron and steel goods, such as are included under the general appellation of hardware, the number is very considerable, as is also the localization of each branch. At Dudley, Cradley, and Halesowen nails are made by hand, but it is a trade, it is said, that is destined to die out. Machinery and strikes have robbed it of its vital force. Some forty or fifty years ago this trade employed 50,000 hands. About 20,000 is now the number. At one time a nail shop was attached to almost every farm-house in the nailing districts, and the farmer and his family hammered away at iron rods when farm work was slack, and at one time, it is said, the nailers were perhaps the roughest people in all England. At election times they would attack the yeomanry with heated iron rods and litter the ground with iron spikes to lame the horses. Drinking (only to get drunk), gambling, bull-baiting, cock and dog fighting were the nailers' favorite amusements. The three last still linger on the sly among the lowest classes of nailers, but as public amusements they have shared for the last twenty years the fate of the previously put down bull-baiting.

Machine-made nails are fast pushing the hand-made trade to the wall, and the principal machine nail factories are located in Birmingham, Leeds, Newcastle, and Newport.

Chains and anchors form a heavy branch of the iron

trade, and are principally made at Cradley, Gateshead and Pontypridd. Locks are more localized than nails, and the subdivisions of labor among the various lock towns are very curious. Wolverhampton, Willenhall, Bloxwich, Walsall, and Brewood not only possessing specialties for lock-making, but each for a peculiar kind of lock. Birmingham and Wolverhampton are the chief centers of the tool trade, though by far the greater portion of the cutlery produced in England is made at Sheffield, which has been from time immemorial celebrated for its steel, made from Swedish iron, by the cementation process. The number of table and pen knives, razors, forks, scissors, saws, surgical instruments, files, sickles, etc., turned out annually from Sheffield is enormous, and the reputation of Sheffield cutlery is still very high. Needles and fish-hooks are principally made at Redditch and Alcester (Worcester) and Hathersage (Derby), while pins are a production of Birmingham, Dublin, Warrington and Bristol. The headquarters of the button trade, of whatever material they are, whether metal, pearl, vegetable, ivory, glass, bone, wood, porcelain, or covered buttons, are almost entirely at Birmingham, as are those of the steel-pen trade. Birmingham is the oldest seat of the gun and firearm manufacture, though of late years factories have been established at other places, as at Enfield (Middlesex) and Reading, while for heavy ordnance the Armstrong factory, at Elswick, near Newcastle, is the most prominent. Screws, nuts and bolts, now used by the hundred million, are made at Birmingham. Darlaston (Warwick) and Combran (Monmouth), where also wire is largely produced, together with Bristol, Warrington, Manchester and Sheffield. Wolverhampton and Sheffield are the principal seats of the spring trade.

Seven-tenths of the pottery trade of England is located in the district known as "the Potteries." It has been said by Mr. Gladstone that this industry may very properly be called national by Great Britain, because earthenware in its varied and innumerable branches is fast becoming, or has

indeed become, one of the great and distinguishing British manufactures. This district occupies a portion of North Staffordshire, and includes the towns of Stoke-upon-Trent, Etruria, Cobridge, Hanley, Newcastle-under-Lyme, Fenton, Burslem, Tunstall and Longston, a district that has increased in population from 23,626 in 1801 to about 200,000, and the greatest proportion of this population are dependent upon the manufacture of porcelain and stoneware.

The great divisions of British textile trades are those of cotton, wool, flax and silk, each of which will be treated separately in this series. The bulk of the cotton trade is found in Lancashire, in which it is the chief and most absorbing occupation of cities and towns like Manchester, Liverpool, Preston, Blackburn, Bolton, Bury, Wigan, Oldham, Chorley, Burnley, Padinam, Accrington, Middletown, Bacup and countless villages.

The chief cotton centers of Scotland are Glasgow, Paisley, and a few of the Ayrshire towns. The woolen trade has its chief quarters in Yorkshire, where every variety of this branch of textiles is produced, though with a curious localization of variety. In former times the woolen manufacture of the kingdom was chiefly in the western counties; indeed, at the beginning of the eighteenth century the west of England was the seat of the greatest commercial and manufacturing industry of the kingdom. It was not until the days of steam power and the application of chemical science to manufactures that Leeds became celebrated for its cloths, Bradford for its worsted and stuffs, Dewsbury for its army clothing, Batley for its shoddy, and other towns, such as Halifax, Huddersfield, Brighouse, Wakefield and Meltham, with many a smaller one, became dependent upon wool and its preparation.

In the forgotten poem of "The Fleece" accurate as well as pleasing pictures of the weaving labors of the olden times are given, and form a wonderful contrast to the rush and bustle of the great cloth towns of Yorkshire. In that pretty, poetic story, the young man, entering upon his career of

industry, sets up his own loom; he stores his soft yarn; he strains the warp along his garden walk or by the highway side; he drives the thready shuttle from morn till eve; he takes the web to the fulling-mill, near some clear-sliding river, where tumbling waters turn enormous wheels and hammers; the wet web is often steeped, and often dragged by sinewy arms to the river's grassy bank; it is hung on rugged tenters to brighten in the fervid sun; the clothier's shears and the burler's thistle skim the surface; and lastly, the snowy web is steeped in boiling vats, where wood or fustic, logwood or cochineal, give their hues to the purple of the prince, the scarlet of the warrior and the black of the priest. Knight has aptly said: "There can be no greater contrast than that of the woolen trade of the west a century and a half ago, with a cloth factory of the north in our own times, where, with the gigantic aid of steam, wool from every quarter of the habitable globe is carded, spun, woven by the power loom, fulled, sheared, and dyed in buildings, one of which would turn out more cloth than a dozen old clothing towns with their tributary villages."

The flax and linen manufacture is one in which Scotland and Ireland take the lead, although it is extensively carried on in certain towns in England, such as Leeds and Barnsley, and to a lesser extent in Somerset and Dorset. A letter from Judge Kelley requested me to especially look into the linen industry, the seat of which, owing to the introduction of machinery, is now at Belfast.

According to the report of the Flax Supply Association for 1881, there were then 927,295 spindles and 21,177 power looms. The following table shows the changes in this industry in Belfast from 1850 to 1879:

LINEN FACTORIES.	1850.	1860.	1870.	1879.
Factories	69	100	154	144
Spindles	396,338	592,981	916,550	826,743
Power looms.....	58	4,666	14,834	19,611
Persons employed....	21,121	33,526	55,039	56,342

The flax and linen manufacture is also a staple trade in Scotland, especially in the counties of Forfar, Perth, Fife, Kinross and Clackmannan, where the towns of Dumfermline, Kinross, Falkland, Markinch, Forfar, Kirriemuir, Alyth, Montrose, Cupar, Blairgowrie, Alva, Tillicoultry, etc., are almost entirely occupied with linens. It is also the great trade of Ireland, and especially of Northern Ireland. A large proportion of Ulster generally is occupied agriculturally with flax crops, while the towns are busy with the spinning and weaving. Belfast, Portadown, Coleraine, Banbridge, Ballymena, Randalstown, Magherafelt, Hillsborough, Newry, etc., are all so many centers of the linen manufacture, although it is sporadically found in other parts of the country.

The silk trade is principally localized in Cheshire, Derbyshire, Lancashire, and some of the eastern and midland counties. Nottingham is still the center of the cotton, hosiery, and bobbinet trade. The final success was achieved when Mr. Heathcote invented the bobbinframe, whence machine-made lace obtained the name of bobbin-net, and made Nottingham famous even in the bazaars of East India. The lace trade, as far as factory work is concerned, is almost exclusively confined to England, there being 282 factories in the counties of Derby, Nottingham, and Leicester, but a good deal of domestic work is carried on in various forms, principally pillow lace, in those of Bucks, Oxford, Beds, and Devon, while Ireland furnishes guipure lace from Limerick. Hosiery, as a factory trade, is largely carried on in the counties of Derby, Leicester, Nottingham, Rutland and Lincoln, and in Scotland in those of Roxburgh (Hawick and Galashiels being the two chief centers), Dumfries, Kirkcudbright and Wigtown. The hand trade is, however, found in many scattered places as far north as the Shetland Isles, and in Ireland at Balbriggan.

The annual value of the product from the chemical trades alone in 1880 was over \$50,000,000. The chief localities of the manufacture of this class of industries are Widnes and

St. Helen's in Lancashire, the East End of London on the banks of the Thames, and Lea, the banks of the Wear and Tyne, Leeds, Glasgow and several other industrial towns. Soap, candle and oil works are more scattered, and generally speaking are found in the neighborhood of great points, such as London, Liverpool, Bristol, Hull, etc. The largest candle works in the kingdom are probably those at Battersea, on the Surrey side of the Thames. Matches, too, whether lucifer or wax, are subsidiary trades, found in the outskirts of the large towns, such as London, Manchester, and Birmingham, though the former city contains at least nine-tenths of the best known makers of these familiar articles. The manufacture of explosives is naturally very localized, powder mills being usually placed in the most inaccessible and sparsely populated districts, where the risks of explosion are minimized, such as near Dartford, Ewell, Elterwater (Westmoreland), Waltham (Herts), Marchwood (Hants), Ballicolig (Cork), Kilmelfort (Argyll). This does not so much apply to other kinds of explosives, such as gun-cotton, made at Faversham (Kent), and Stowmarket (Suffolk), or to percussion caps and cartridges, which are usually produced in the outskirts of towns like Birmingham and Wolverhampton, though one of the largest exists in Gray's Inn Road, in the heart of London. The manufacture of artificial manures is found in many towns, with a tendency to localize in those of East England, which are the centers of agricultural industry.

Nearly 30,000 hands are employed in the paper trade in about 350 paper mills, from which the annual turnout of paper is nearly 350,000,000 pounds in weight. The chief localities of this industry are Kent (Valleys of the Cray and Darent), Bucks (Wycombe), Herts (Rickmansworth, Hemel, Hempstead, etc.), Surrey, Devon, Durham, Lancaster and York; in Scotland, those of Edinburgh (Lasswade), Lanark, Fife and Aberdeen; in that of Ireland, that of Dublin.

The printing trade is more important than that of paper

as regards the number of industrials. Every town of the kingdom has a printing establishment of more or less size, while of late years it has been the fashion for the metropolitan printers to build factories in country places, where expenses are less, or to contract for much of their work being done by country printers. London and Edinburgh are the great centers of printing and bookbinding. There are probably over sixty thousand persons employed in the printing trade, and about sixteen thousand in bookbinding.

Under the head of fibers large interests are involved, especially in the manufacture of ropes and cordage. Roperies are adjuncts of most of the large towns. For colliery purposes hemp ropes have been almost entirely superseded by wire ropes. The leather trade, as far as tanning and currying are concerned, is found in almost every town of any size in the kingdom, though as a specialty the city of Bristol probably exceeds every other. India rubber and gutta percha only employ about 6,000 persons, though the manufacture of India rubber goods is fast increasing. The brewing and distilling industries in England are simply enormous. The cost to the nation is, first, in the material consumed in the manufacture, which is represented by the employment of 300,000 persons; secondly, in the manufacture and distribution, occupying 600,000 more; and the food, etc., required for the maintenance of these, equivalent to 200,000 more; thus bringing up the numbers employed in the production to 1,100,000, which constitutes one tenth of the producing power of the United Kingdom. Malting has its locale, as a rule, in the agricultural districts, so that we find eastern county towns like Newark, Grantham, Retford, Hertford, Ware, etc., devoted to this branch. Breweries are, on the other hand, the adjuncts of any town of any size—London, Burton-on-Trent, Edinburgh, Alloa and Dublin being the best known in connection with the familiar drinks of ale, beer and porter. Distilling, though carried on to a considerable extent in London, is a special trade both in Scotland and Ireland, where an enormous amount

of whiskey is annually made. Sugar-refining is carried on chiefly in Liverpool, Bristol, London, Glasgow and Greenock, and employs about 5,000 persons.

LX.

CARDIFF AND SWANSEA.

THE journey from Bristol to Cardiff on a cold, bleak, rainy day in March is anything but inspiring. At "New Passage" we were all turned out of the train and had to shiver on the jetty until a couple of primitive "lifts" had lowered the "luggage." Wistful were the looks of the passengers toward the spot on the banks of the Severn where the Great Western tunnel works are progressing, and every one said to every one, "When will the tunnel under the Severn be completed?" No one knew. The wind was bitter, the rain was penetrating, and the red, muddy water splashed and rushed amid the wooden piers. After about fifteen minutes waiting a bell rang and down rushed the half-frozen passengers into a ferry-boat, and after a disagreeable passage we landed in Monmouthshire and were soon on the road to Newport. I was anxious to reach Cardiff that night, so did not stay long at Newport, which has recently been described, very aptly I think, as "a strange, busy, primitive, pushing and sagacious town." The streets are long, the hilly byways are numerous and very steep, the houses are for the most part flat, shallow and uninteresting, the shops are of the cheap order—something like Dewsbury—and the thoroughfares are said to overflow with children. The latter statement I do not make on my own authority. Says the author of a very interesting series of papers in *The Daily Telegraph* on "The British Channel Ports"; "Boys and girls sprawl about the pavement (of Newport) in shoals. From time to time indignant house-

holders dart out of their doors and threaten them and a scamper instantly follows, but back they come again in flights."

To an American, however, all these Welsh ports present nothing very novel. Newport is truly "a town in the making," and there are many such towns in America, especially in the West. A free library had recently been opened, a wing of a public infirmary completed and a park presented to the city. These events were, of course, celebrated in the Western fashion. The police, the fire-engine, his worship the Mayor, the Council, the clergy, and the volunteers, followed by an array of pilots, compositors, boiler-makers, bakers, wagons, vans, etc., with a display of bunting, formed a procession and the town blazed in glory for a day. Newport has nearly 40,000 population. The shipping business is extensive and a small amount of ship-building is carried on. It is a busy, progressive place, but of no special interest as a manufacturing town.

I arrived at Cardiff late in the evening, and after trying in vain to obtain accommodation at the four principal hotels, was informed at the Royal that the Boots might be able to find me "a room over the way." I followed the Boots, and thereby obtained a garret, with a skylight for a window, a rickety chair, a bedstead, washstand, glass nailed to the wall, and a square yard of three-ply carpet for furniture.

"What is going on in town?" I said to the Boots.

"Nothing, sir," he replied; "Cardiff grows so fast that the hotel accommodation is insufficient. Why, we are a hundred thousand now."

And the Boots was right. Cardiff has grown of late years from a very insignificant place to an important port. It and Swansea are in fact the two outlets to the great coal-fields of South Wales, and around them have clustered a variety of industries.

According to the census of 1881 the population of Wales was 1,360,000. Glamorganshire, in which Cardiff, Swansea

and Merthyr Tidvil are situated, contained 512,000, and industrial Wales contains over one half of the entire population of Wales. Including Monmouthshire—and it is almost impossible to speak of industrial Wales without including Monmouthshire, which, for apparent reasons, I shall consider with Wales—and taking the population in a radius of twenty-five miles around Cardiff, we have a total of 563,280. The same radius around Swansea would give 404,498. Indeed, until the development of South Wales the whole of that part of the United Kingdom was sparsely settled and of no economic importance or interest. In the present letter I shall treat of the two ports, and in a second from this locality, give an account of a visit to Merthyr Tidvil and a walk from there to Dowlais and of a visit among the Welsh coal miners and iron-workers.

The history of Cardiff during this century is considered by Englishmen "a commercial romance," though it is what Americans would call ordinary commercial progress. At the opening of the present century, eight pages of a directory gave the list of the inhabitants of Cardiff. It will be gratifying to know that at that early day nine of the townspeople were styled "gentry." Under the somewhat generic head "Physic," four persons described themselves as "surgeons, apothecaries and men-midwives." There were five lawyers, and nearly every one else was classified under the head "Traders." Multitudinous characters were these old Welshmen, and here again they remind one of the pioneers of the West. The peaceful loom is combined with the implements of war in the person of one citizen described as a "linen-weaver and sergeant-major"; literature and foresight in another, who was a "printer, bookseller, clerk to the Marquis of Bute and insurance agent." The fair Elizabeth Jones was a "draper, hat-dealer and maltster." Her namesake Tom Jones was a "dealer in earthenware, and tailor." John Mogan was a "baker and mason," and Edward Whiting a "tailor and soap-boiler," while John Stibbs held the enviable position of "perukemaker, bleeder

and tooth-drawer" to the community, which then numbered less than 1000. The definition of "trader" in Cardiff has always been a broad one, and as late as 1830 included schoolmasters, cashiers of banks, auctioneers, architects or French drawing masters, organists and music masters, book-keepers, and the governors of the jail. At that time the population had only reached 6187, and twenty years later (1851), only 18,351. In 1861 it had nearly doubled; in 1871 it reached 60,000, and to-day is nearly 100,000. The beginning of this progress dates from the construction of the canal from Merthyr Tidvil to Cardiff; the second period in what the population has doubled from the construction of the docks. Within the last twenty-five years over \$15,000,000 has been laid out in the construction of docks in the port of Cardiff. In five years \$1,500,000 has been expended on the streets. The value of the exports from the port of Cardiff has increased from \$14,000,000 in 1876 to \$20,610,000 in 1880, while the imports aggregate \$12,000,000.

No town displays such a strange intermixture of feudal restriction and modern progress as Cardiff does. The whole place is practically owned by Lord Bute, whose annual income is about \$1,500,000, and whose agents have become nothing short of petty tyrants. When the ancestors of his Lordship first appeared upon the scene they undoubtedly helped the town by some bold railway and dock enterprises. At the present time the Marquis of Bute stops the car of progress and unless Cardiff can free itself from its present owner, it will never become the great port its townspeople so devoutly wish. The inhabitants appreciate this, and have recently offered to purchase the freedom of their own docks for \$12,500,000 from the Marquis. As it now is, Cardiff is Lord Bute and Lord Bute is a fanatic who wanted to be a monk. The public buildings, the churches, the houses, are either Lord Bute's, or built by Lord Bute, or in some way connected with his Lordship or his Lordship's father—in fact, Lord Bute is indeed the tutelary genius of Cardiff. The independent freeholds are a mere bagatelle,

and the whole of Cardiff may be said to be owned by his Lordship. Besides this he has large estates in Scotland, Bedfordshire, and Newcastle, but eight-tenths of his income is extracted from Cardiff. His complete monopoly of the land gives his agents the power to punish all tenants who are not politically friendly with his Lordship, and this power, I was told on good authority, was very often used, as actual instances of outrageous treatment of tenants were given.

In consequence of this, ground rents are high and house rents higher in Cardiff than any town I have yet visited in the kingdom. The very lowest rate paid by working-men is from 6s. (\$1.50) to 8s. (\$2) a week. These houses have a front and back room, kitchen behind, small wash house, and up stairs, two or three bed-rooms. The result is that at least two families are obliged to crowd into each of these little houses. As a rule, in England the number of voters in a town the size of Cardiff reaches about 15,000 but in Cardiff the system of two families in a house reduces the number of householders and robs a poor man of his right to vote, the voting strength of the town being only 9000.

But in spite of the drawbacks of the aristocratic owner, the Cardiff people have plenty to do and seem very busy doing it. The docks during the day swarm with people of all nationalities, and the principal streets of Cardiff night have, not inaptly been compared to Ratcliff Highway, London. The shops are tolerably large and the houses of a fair size. A couple of gas stars blazing over doorways about a hundred feet distant from each other denote the existence of music halls. The electric light operates here and there; and there are hotels, a theatre and other evidences of advanced civilization. But for all that, says a well-informed Londoner, there are suggestions of the famous Highway. Jack is everywhere, drunk and bawling, full of laughter and lurches, sailing under all sorts of colors, and talking every language spoken from China to Peru. Now he is a negro in a tall hat, cigar and cucumber legs;

now a Norwegian in red shirt, or a Finn in a fur cape, or a Dane in a shiny cloth. Such is the motley crowd one meets at night on the streets of Cardiff.

Swansea is not such a progressive place as Cardiff. During the last ten years the population of the former increased 23 per cent and the latter 43 per cent. The two towns have lately been competing for the location of the proposed University College for South Wales and Monmouthshire, and Cardiff has won the day. I have been furnished with briefs of the arguments on both sides, including colored maps showing the distribution of population, of agriculture, mining and manufacturing wealth. The fight was a lively one, and I seriously doubt if a citizen of Swansea would during it have spoken to a citizen of Cardiff. Poor Mr. Mundella, the vice-president of the Council on Education, was perplexed. He wanted to shift the responsibility of deciding the question of location, and suggested that Swansea and Cardiff fight it out and settle it. In the meantime, torrents of argument on both sides poured in upon the right honorable gentleman. Swansea claimed the college because she had voted \$100,000 for it; because her industries exceeded those of any town in the world; because it was the center of population; because of its magnificent bay, and because no town was comparable to it. On the other hand, Cardiff published a colored map showing its wonderful growth, its network of railroads, its marvellous docks and tremendous possibilities, and lastly claimed vociferously that twenty years ago it had subscribed \$20,000 for the college when Swansea only offered \$835. For my own part, after listening to the arguments on both sides, and bringing away a large bundle of maps and pamphlets on the subject from each town, I think the arbitrators decided wisely and that Cardiff is the place for the college.

In March the Bay of Swansea is not very beautiful. The town itself is filled with the vapors of spelter, tin-plate and copper smelting. It is noted for its docks, which are very fine, and for a workhouse which looks like "a gentleman's

country seat; flowers in the windows and a profusion of evergreens enveiling the garden and entrance." Strangely enough I can see this fact nowhere in the documents I have on the Swansea side of the college question. The tutelary genius of this town is Sir Hussey Vivian. It is said that he once saved the town from utter ruin and disgrace by asking the following question:

"What about the breakfast and where is it to be held?"

Swansea had invited the Prince of Wales down to open the docks, but until the eleventh hour, had wholly neglected to provide a breakfast. The remark of Sir Hussey Vivian electrified the people of Swansea, an iron house was erected almost in a night, and a thousand people sat down to breakfast. It remains to-day (the iron house, I mean) a monument to the Baronet's forethought.

Swansea people have a great deal of local pride. Said an observing gentleman: "I never met any community of people who have a larger faith in their town than the inhabitants of Swansea. Cardiff, they feel, commands a certain amount of respect, but Newport they shrug their shoulders at, Bristol they consider as good as dead and Milford they heartily despise."

There is a good deal of push and enterprise in Cardiff, Swansea and Newport, and they all remind one of American cities. The greatest obstacle to their progress is the fact that half a dozen capitalists seem to own the three towns—Lord Bute and Lord Windsor, of Cardiff; Sir Hussey Vivian, of Swansea; and Lord Tredegar and Sir George Elliot, of Newport. In my next letter I shall show the value of the industrial forces which these men yield, and, as in the Cleveland district, we shall find these immense mineral riches controlled by a few powerful noblemen.

LXI.

MERTHYR TYDVIL.

I am writing from the center of the second great coal region of the kingdom. This is a dirty, straggling town, sprawling up barren mountains, with belching furnaces, black table lands and heaps upon heaps of slag and rubbish allround. Little more than a century ago Merthyr was a village dozing in the hollow of the hills; and to this day it retains the village type. It is a village stretched a good deal each way, with modern patches on the strained ancient cloth. It has banks, 'busses and barracks, plate-glass shop fronts, rattled-out cabs, narrow, winding, dark and dirty streets, and a huge poorhouse, built on a rubbish heap. A graduated public-house answers for "the leading hotel," which, at the best, is a comfortless place. In the Blue Books of England Merthyr Tydvil is put down as a parliamentary borough of nearly 100,000 inhabitants, while the urban sanitary district of Merthyr Tydvil had about 52,000 in 1881. There never has been public spirit enough in the place to obtain a municipal charter; so charterless, characterless, gardenless, with its slovenly built hovels, with hardly a bit of green for the eyes to rest upon, with volumes of smoke in the atmosphere, with slimy pools of black mud in the rainy season, and clouds of dust in dry weather, and on all sides never-ending hills upon hills of slag, the grimy inhabitants of Merthyr Tydvil continue to raise, burn up and ship the thirty-six thousand millions of tons of coal in the coal-fields beneath them, and heed not the scientists who say that in seventeen hundred and twenty years their mines will be exhausted. The annual product of this coal-field (including the part of it in Monmouthshire) is about 21,000,000 tons, and 69,158 persons in 1880 were engaged in the mines. Of this number 47,081 are employed in Glamorganshire, mostly in this immediate vicinity.

While the total number of persons engaged in the anthracite and bituminous coal regions in the United States, according to the census of 1880, was only 164,714, with an aggregate product of 68,000,000 net tons, the United Kingdom employed the same year 484,933 persons, with a product of 147,000,000 gross tons.

An inquiry instituted about the year 1860 shows that at that period the cost of cutting coal and filling into teams varies, according to the district, from 10d. or 20 cents, to 2s. 6d. or 60 cents, per ton. In 1860 coal cost at bank, including royalties and all expenses, but not interest on capital expended, about 5s. 6d. per ton (\$1.32). The average price of Welsh coal at port in 1860 was 7s. 10d. per ton (\$2.08). The next ten years the wages of coal miners were moderate. In 1871, however, a period of prosperity set in, when the iron-workers sought an increase of wages, and this was succeeded by the coal-miners seeking similar advantages. The average earning of a collier at this time was 40s. or \$9.60, a week. Between 1872-74 the great strike occurred in South Wales. About 60,000 of the 65,000 hands then employed in the collieries and ironworks of the district struck work from December 1, 1872, to February, 1873. The total loss to masters and men has been estimated at \$10,000,000—over \$4,000,000 in wages alone. From this time colliers' wages decreased, till in 1877 they did not exceed 4s. to 4s. 6d. or about \$1 a day, for ordinary pitmen, and 5s. to 5s. 3d. (\$1.25) for hewers. They do not now earn over 3s. 6d. to 4s. 6d. or about \$1 a day. Mr. David James, of the Dowlais Iron Works, said that unskilled labor was paid about 2s. 5d. (60 cents) a day. I found some men in the yard working for as low as 2s. a day (48 cents) but the average price for common laborers would be between 60 and 72 cents per day. The statistics of the English Board of Trade show that some branches of unskilled labor in this coal district and in Staffordshire get less than \$4 a week, while shifters, bankmen, screen-men, jiggers, furnace-men, wagon-wrights and plate layers all average less than \$5 per week—if they put in a

full week's work. In the Darlington District, screen-men and bank-laborers are reported as working for as low as \$3.53 a week. Professor Pumpelly's statistics show that in anthracite coal-mining in the United States 10,535 persons are engaged as miners. 1,244 constitute the administrative force, and 47,410, or more than two-thirds of all employed are laborers.

This means that two-thirds of the 70,000 persons employed in the South Wales District are 60-and-70-cents-a-day men.

It means also that two-thirds of the immense army of 484-933 persons employed in coal-mining in the United Kingdom, or 323,288 are laborers (many of them with large families), and that they are paid at the rate of 60 and 70 cents per day. Put the income of this class of workers to the same test that Professor Pumpelly puts the income of American coal-workers, and it would make their average annual income reach \$180?

When we take into consideration the large proportion of this class of labor to skilled labor engaged in coal-mining, the average wages paid all classes of labor, that is, the net amount received by the men, will not exceed 3s. 6d. per day, or 21s. per week (\$5.04). With the facts before us it must be conceded that this is an outside estimate.

Professor Pumpelly has shown (See United States Census Bulletin No. 223) that coal miners work about 70 per cent of the year—deducting strikes, slack-time, holidays, Sundays, etc. The English and Welsh average of lost time would fully equal the American, as Saint Monday is religiously kept in Wales. If the English coal miner worked every day of the year, including Sunday, he would receive at 3s. 6d. (84 cents) per day, \$306.60. Deduct Sundays, holidays, lost time and strikes, and he would receive \$214.80 for the year's labor. Professor Pumpelly shows that the average yearly net income of all classes of labor in the anthracite coal-field in the United States, after deducting all lost time and the sums the miner is obliged to expend for powder, oil, etc., is \$360; and in the bituminous fields \$329. This latter

includes the cheap colored labor of the South—the average income in Illinois being, \$382; in Missouri, \$385; in Pennsylvania, \$337.

Put to the severe test of exact statistics, the average yearly earnings of all labor around coal mines in the United States is \$345; could exactly the same test be applied, in my opinion, it would not exceed \$200 in England—estimating it at 21s. a week it is less than \$215, the American miner receiving over 60 per cent more than the English and Welsh miners.

The average price of bituminous coal at the mine (after allowing for the difference in the ton) is less in the United States than in Wales.

In the United States for 1880 (See United States Census Bulletin No. 273), \$1.22; in Wales for 1880 \$1.56 per ton.

The average amount raised in 1880 per man in Wales was 300 gross tons; in the United States 431 net tons. Of course there are elements entering into the comparison, such as accessibility of coal, etc., which make it unfair to assume that the increased amount raised was all due to the better methods of the American workman. That it is, in part, there can be no doubt.

LXII.

DOWLAIS—AN INDUSTRIAL GRAVEYARD.

I walked from Merthyr Tydvil to Dowlais, where are probably the largest iron works in the world, employing, it is said, 9,000 hands—4,000 under and 5,000 above ground. In the journey one passes houses black, white and gray, yellow and mouse-colored, piebald and mottled. In raised gardens, looking, as Rowe says, like blacksmith's small coal, "fenced" from the road with very intermittent boulders, "a few bony cabbage-stalks were shamming to grow." Muddy streamlets were cascading from the hill-side. Rails

and dingy railway bridges and flat-topped sloping piles of black rubbish ran and rose on all sides. The houses on both sides of the narrow, dirty, winding, steep road leading to Dowlais are occupied by the miners and laborers. They are about on par with those at Coatbridge, Scotland. The floors of some are sunken lower than the streets, and others are entered by steps. The doors were mostly thrown wide open, and, as I toiled up the hill, I had excellent opportunity for observing how men with large families exist on 2s. 6d. or 60 cents a day. Without any exaggeration they are little better than pig-sties—broken-down, leaky, grimy hovels, with everything crowded into one general room. I doubt if in that walk of two miles I found one comfortable home, one cheerful, tidy cottage. They were universally dilapidated, universally gloomy, with no outlook in front better than pools of black, slimy mud, and no prospect at the back but yawning chasms and dismal mountains of slag.

As for Dowlais, I can only say that it has been truthfully described as “a dirty, slovenly, big village,” in which “the clartier, the cosier” seems to be the motto. The following is an accurate description of the utter bewilderment of a stranger first turned adrift in the Dowlais works.

He hears a sighing roar like that of ocean, a hiss of steam, a clank of iron, a whir of wheels; sulphurous smoke and a spray of grit choke his nostrils; he sees round keeps and angular bastions, with fire leaping from their summit and glowing at their base; a forest of chimney stalks—a jumble of mysterious buildings of all shapes and sizes, a maze of muddy rails, mounds of coal and lime, piles of metal, timber and white brick: an army of men, women and children whose diverse garments are turned into a uniform by unvarying grime-facings. The slush on the ground is black as ink and sticky as tar, and men and girls are shoveling it up by truck loads. Wherever the dazed visitor seeks rest for the sole of his foot a tram-horse trots right at him. It is indeed a bewildering nightmare vision—that “lurid Valley of the Shadow of Tips.”

Some of the girls one sees in this part of South Wales are very dirty, very bold-eyed, and yet squalidly picturesque, with their cheap earrings and their colored kerchiefs. They ply their shovels like navvies, and lift immense blocks of stone and coal. The employment of women in this labor, thanks to the Factory act, is growing less in England, and in 1880 not over 5,000 were so employed.

Dr. Rowe, in his little work on the laboring classes of England, says, that an enormous quantity of drink is consumed in Merthyr.

“What do the miners live on?”

“Beer,” is the first answer you get.

When maddened with drink the miners fight long and furiously. They turn out into the street, strip to the waist, and, not content with blinding one another with their sledge-hammer blows, they fasten their teeth in one another’s ears and shoulders, and worry the flesh like dogs.

Some of the miners attend chapel on Sunday, but the English Established Church, judging from the following description of the parish church of this town, has no hold on the Welsh miners:

It has a dimly illuminated clock, but that is the only thing bright about it. It seems to be mouldering away in its green churchyard, as the Bibles painted on some of the tombstones are scaling off from the green slabs. The flags are as damp as the bricks of a cellar. When the clergyman goes to the communion-table he is quite exiled from his sparse congregation. There were between forty and fifty persons present on the morning I attended. The faded organ seemed to be shivering up in the chilly gallery; and when the thin old clerk in wig and spectacles and long-skirted coat took round the pewter plate he looked like the last of his race. It was worth while going to church, however, if only to hear the Litany read in Welsh. It was a sea-like piece of music.

Returning down the hill to Merthyr Tydvil I passed the old Pen y Darran Iron Works, now closed, and rapidly

going into decay. The gate was opened and I entered. Within the gray moss-grown walls it looked like a dead city. Twenty years ago 3,000 busy men circled round those ruined workshops. All was then as smoky, as black, as active and as bewildering as Dowlais is now. I wandered amid the gray stone blast furnaces, now covered with grass and weeds, and through the vast sheds in which lay the ponderous machinery thick with rust. Shafting, wheels, engines, steam-hammers, anvils, forges, puddling furnaces, rolling machines, with rust accumulated, had remained silent and stationary for twenty years. The solitude of the place was only broken by the rushing of a stream cascading down the hill and the singing of the birds. In the blast furnaces and ovens through which once roared the flames from melting iron, and in the once smoke-enveloped rafters, the birds build their nests. Here, too, the ivy clings and the wild flowers grow. The ironwork which once encased the boiler has crumbled away and the rusty iron shells look like a row of dead giants, bursting from their stone coffins. Moss-grown was the mortar, and green vegetation was peeping forth inside where twenty years ago hissed the steam that propelled the now motionless machinery. The outfence had collapsed and become gray with moss and lichen; the shops had decayed by degrees; abandonment and desolation had crept downward toward the valley, and nature was slowly asserting herself again. The bell, that formerly called the men to work, and the clock remain silent in the cupola; and the weather-indicator on the top had lost all its letters but the W.

Sitting in the midst of this huge industrial graveyard, the thought occurred, that possibly the significance of this was the fact that iron industry had taken deep root in the far West, or that, perhaps, better paid, better fed, better housed men, with brighter futures and larger possibilities, were doing at this moment the very work that this mill, with its cheap labor, located in the centre of the second great coal district of England, within a few miles of three important ports, had found it unprofitable to do.

LXIII.

BRISTOL—ITS MILDEWY ASPECT.

BRISTOL strikes the stranger as a singular mixture of enterprise and decay. The merchants are keen, busy men, but frankly admit that they have been outstripped through the natural migration of industrial centers and not through any fault of their own. The poorer dwelling-houses are constructed of a gray plaster grown black and green with age, while the red tiles have long since been subdued by time to dark green and black. The muddy river runs sluggishly through the arches of the ancient bridge, unused factories crumble into ruins on the banks, the docks have a deserted appearance, idle men lounge around the quay and the public squares, and even the statue of William III., in Queen's Square, partakes of the general mildewy aspect of the whole place, in which an air of departed opulence reigns supreme.

“A farthing a pound extra duty on sugar when the West India slaves were freed, might have saved our vast sugar interests,” said one of Bristol’s prominent citizens to me as we drove past some deserted factories; “but alas, our people are so obstinately wedded to the free-trade theory that Parliament would rather leave the industry to perish and suffer its migration to other countries than grant this reasonable request.”

It has since been strongly urged that the British Government impose countervailing duties against French, Dutch, Belgian, or other foreign refined sugar to check the effect of foreign legislation. In vain the Bristol and other British refiners urged that the imposition of this country of countervailing duties on French or other sugars would not give any protection to British refiners, but simply restore the equilibrium between the exporters of refined sugar in the different countries.

We see the necessity of the measure, said Parliament, we understand that it means ruin to the refiners, but it "would certainly be antagonistic to our commercial policy; and so the factories crumble into dust on the banks of the Avon and the Frome, and the once busy operatives stand idly on the streets, or seek relief in the Bristol Poorhouse, and John Bull pays over \$50,000,000 a year to his army of paupers, and chuckles over maintaining "our commercial policy," forgetting that about one-twentieth of the population of the Kingdom are paupers or recipients of charity.

In Defoe's time (1760) Bristol was "the greatest, the richest, and the best port of trade in Great Britain, London only excepted;" Defoe also says of Bristol: "Whatsoever exports they make to any other part of the world, they are able to bring the full returns back to their own port, and can dispose of them there." I have no doubt of the correctness of this statement in Defoe's time, but one of the causes of the present decline of Bristol is that she has no market for return freights. In the eighteenth century, it should be borne in mind, the west of England was the seat of the greatest commercial and manufacturing industries of the Kingdom. The population of the southwestern counties was about 800,000, while that of the north-western district (including Lancashire and Cheshire) was only 300,000. The manufacture of woolen goods had not then removed to the great cloth district of Yorkshire, and Wiltshire, Gloucestershire, Somersetshire and Devonshire had for centuries been famous for "whites" and "reds," their "azures" and "blues." Before steam, and the application of chemical science to manufactures, natural advantages wholly determined the location of industries. Defoe gives a glowing account of this region. The clothing trade of the west was created by the adaptation of the district to sheep pasturage. On the grassy downs and wide plains of Wiltshire innumerable flocks of sheep yielded fleece. The fleeces of the long-sheep of the Cotswold Hills were famous in the fifteenth century. The Mendip Hills supported a short-wooled breed,

whose wool was as fine as that of Spain. The supply of wool was thus at hand for the clothiers who dwelt in the valley of the Lower Avon. The waters of that river, with its many branches, were especially fitted for fulling and dressing and dyeing cloth. They fabricated the finest cloths, says Defoe. Frome, Bradford, Trowbridge, Devizes, with many adjacent towns, were the seats of this "prodigy of a trade." In those days the Wiltshire Bradford was the busy Bradford. The town of the same name in the Yorkshire Riding was comparatively silent or inactive. The Bradford on the sweet-flowing Avon was then "making of the finest Spanish cloths," and the port of Bristol was the only port that could pretend to enter into competition with London.

The Bristol shopkeepers were also merchants—"wholesale men," Defoe calls them—and they conducted an inland trade through all the western counties and extended their traffic through the midland districts even to the Trent. Enterprising fellows were the old Bristol merchants, and rather than fail they would trade in men. In exchange for rum and sugar and tobacco, men were kidnapped and sent to foreign plantations. This was as late as the days of Charles II., and Bristol was the last to cling to the slave trade in the days of George III. But Bristol did a large foreign export trade in human flesh centuries before this, and in the Conqueror's time young persons of both sexes, some of them of great beauty, might daily be seen in the market-place tied together with ropes, and thus exposed for sale. It took a Bristol mob to abolish slavery. The mob fell upon some of the slave merchants and put out their eyes. Centuries after, Bristol had reason to remember the brutal passion of a mob which to this day has left its scars. For three days, during the Reform bill agitation, a mob held the town. Houses and public buildings were fired and a heap of smouldering ruins was all that remained of half of one of the most spacious quadrangles of houses in Europe. The heads of men were actually slashed off in the streets by the soldiers before the British Riots were stayed.

“The greatest inconveniences of Bristol,” said Defoe, “are its situation, its narrow streets, and the narrowness of its river; and we might also mention another narrow—that is the minds of the generality of its people.” The author of “Robinson Crusoe” advised the British people to travel more, “but not out of England, neither; I mean only to London”; for there, he informs them, they will see “examples worth their imitation as well for princely spirit as upright and generous dealings.” At that period Bristol was cursed with a very exclusive prosperity, and its uneducated freemen indulged, when their adventures were prosperous, in vulgar ostentation. From this port Sebastian Cabot set sail in 1497, and discovered Newfoundland. Two centuries later Bristol was the great emporium for American produce, and Dampier sailed from the Avon to come back rich with Spanish prizes. A century and a half later the Great Western steamed down past the narrow rocks of St. Vincent on her first voyage to New York. When at Bradford, a few weeks ago, I was introduced to an old gentleman named Ambler, who crossed in that steamer, and he was anxious to know of the changes in New York since then. Says Knight: “The difference between the Bristol of Cabot and the Bristol of Dampier is not greater than the difference between the Bristol of William III. and the Bristol of Queen Victoria.” The Avon is now far too narrow and too tortuous for the mighty vessels that carry the world’s commerce. The old commerce of wool and woolen manufactures, of which Bristol was the seat is gone. Cardiff and Swansea and Newport, I have shown in previous letters, are all struggling for the South Wales coal and iron trade. Instead of the great cotton and woolen districts, with their million or more operatives, and the Lancashire coal district, with its annual product of twenty million tons, to support it, as the port of Liverpool has, Bristol has now nothing but an agricultural country at the back of it. The great sugar industry, which formerly enabled the refiners to live in almost regal splendor, and made their banquets and entertainments celebrated over the whole Kingdom, has died out.

LXIV.

BRISTOL—LOSS OF THE SUGAR TRADE.

At the beginning of the present century Bristol had changed in rank from the second to the sixth great city of Great Britain. At that time the combined population of Manchester and Salford was only 95,000; Liverpool, now nearly three times as large as Bristol, only exceeded it in population by 20,000; and Birmingham, now twice as large by 10,000. The great metropolis of Scotland, Glasgow, with over half a million population, then had but 77,000. Nottingham and Bradford, both equal in importance and population to Bristol, then were small towns of 29,000 and 13,000 inhabitants, respectively. Leeds and Sheffield had less population than Bristol; to-day they each exceed the great western port by 100,000 souls.

The trade of Bristol with the United States is growing less and less. The value of the goods it sends in ten years would not exceed the value of the exports of Bradford for three months. Chemicals form the principal articles of export. Verily the vicissitudes of trade are like the vicissitudes of invention, discovery and genius. A "Bristol man born" first sets foot on Newfoundland and a Bristol steamer first crosses the Atlantic. To-day the trade of Bristol with America is dying out. Bristol was once famous for casting iron and brass pots, and brought to perfection "a new way of casting iron-bellied pots in sand only." It takes no leading part in the iron trade now. Indeed, the inventor himself left the town and founded a vast factory at Coalbrookdale in Shropshire, which is to-day famous for its iron ware. In pottery, Bristol shared the same fate. At one time a Bristol potter was powerful enough to persuade his Majesty George III. to delay the prorogation of Parliament in order that his appeal for the extension of his patent might have effect.

But he got tired of Bristol and sold his patents to a company of Staffordshire potters. To-day old Bristol china is more eagerly sought after than any other porcelain, and within the last two years three vases were exhibited at the Burlington Fine Arts Club, and valued at over \$5,000. Other pieces have realized thrice the value of their weight in gold. Bristol had one of the most remarkable poets of the age, Chatterton, but he was neglected and left to a suicide's fate in a London garret, while to-day the Bristol people honor him with costly "cabinet editions" and monuments. Still Bristol's "ample page" is "rich with the spoils of time." Kings and queens have tarried there. It boasts, says Dr. Doran, of natives of the greatest distinction in commerce, literature and other ennobling pursuits; and it is not only famous for its milk, but for its milk-woman poetess, Anne Yearsley, poetess, dramatist, novel-writer, whom Hannah Moore upheld for a time; but she ultimately set her heel upon "Lactilla," with as much stamp in it as her gentle Christianity would allow. The two women were not wider apart than the Bristol bards, Cottle and Southey; but Bristol once admired Cottle as much as it did Anne Yearsley.

Pepys, who was in Bristol in 1668, with wife and "our girl Deb," said of the city: "It's in every respect another London." Pepys had a good word to say for everything in Bristol except the sermon which he heard in the great church—"a vain, pragmatical fellow preached a ridiculous, affected sermon, and made me angry, and some gentlemen that sat near me." And in the evening "the same idle fellow preached, and I slept most of the sermon." Dr. Doran, when he visited Bristol with the British Association, brings to mind the fact that there was a time when the Bristol Venuses were not held in much estimation for their personal qualities. "This saucy legend," says the Doctor, "goes so far as to assert that the Bristol bride-market was so slack of profitable business that a stimulus was given to it by offering the freedom of the city to any one who would venture to take to wife a Bristol maid or widow." Of course this

was a caluminous satire. Hume, the historian, tried in vain to like learning to be a mercantile clerk, perched on a high stool at Bristol. But he disliked the place as well as his apprenticeship, which he soon abandoned. In his history, under the date 1660, he gives an account of the mock triumphal entry into Bristol of the fanatic Quaker, Naylor, who bore a certain resemblance to the portrait given as that of Jesus: "He entered Bristol mounted on a horse. I suppose," Hume adds, sarcastically, "from the difficulty in that place of finding an ass." Horace Walpole probably gives, in 1766, the most unfavorable judgment on Bristol: "I did go to Bristol, the dirtiest gnat shop I ever saw, with so foul a river that had I seen the least appearance of cleanliness, I should have concluded they washed all their linen in it, as they do in Paris. Going into the town I was struck by a large Gothic building, coal black, and striped with white. I took it for the devil's cathedral. When I came nearer I found it was an uniform castle, lately built, and serving for stables and offices to a smart false Gothic house on the other side of the road."

The municipal government is one of the most unique in England, and the charters are ancient and numerous, dating from the twelfth century. The Mayor is to this day a great dignitary, and in the palmy days of Bristol, before the Municipal Reform act, guests were sumptuously entertained at the city's expense. The impecunious Richard II. used to borrow money of the city of Bristol, and in return for it he would honor the city by a visit. When Henry VI. visited the city the Mayor actually broke open the city coffers by force to "entertain" the monarch. The parsimonious Henry VII. visited the place in 1485 amid great pageantry, and liked it so well that he came again five years later, and made every man worth £20 pay him five per cent on his property because the Bristol wives were so finely dressed. This did not cool the loyalty of the city, and since then innumerable crowned heads have gone thither; indeed, the wife of James I. graciously remarked to the worshipful

Mayor: "Nay, I could not feel myself to be Queen till I came to Bristol."

I cannot close this rather desultory letter without a word for the charitable societies. I suppose in no city of its size in the world are there so many admirable charities, and "Bristol the benevolent" is a fitting title for this ancient and loyal old city; declining industrially, it must be admitted, but nevertheless rich in antiquity, and with a rare old history worth the most careful study.

LXV.

COVENTRY—MEMORIES OF THE OLD TOWN.

THAT story about Lady Godiva's ride never had any foundation in fact, although it is generally believed here. Matthews of Westminister, who did not flourish till 250 years after the alleged occurrence is said to have taken place, was the first to give currency to this tradition. The more ancient authors, though they speak of Leofric's foundation at Coventry, and Godiva's concurrence and benefactions to it, in no way allude to the affair. Ingulfus, the author of the Saxon Chronicles Ordericus Vitalis, Henry of Huntingdon, Simon Dunelmensis, Maieros, Florence of Worcester, John Abbas de Brugo, and William of Malmsbury, the latter particularly treating of the monastery at Coventry, had a fair opportunity of recording a circumstance so singular. The good people of Coventry declare it must have occurred because the transaction was represented in the window of Trinity Church. They forget, however, that the window was not made till Richard II.'s time, and was probably grounded on the testimony of Matthew of Westminster or Brompton, who both lived before Richard II. The procession or calvacade which for some centuries annually com-

memorated the event, stands upon no better ground and originated in the licentious reign of Charles II. And yet, until quite recently, this show, the main attraction of which was a handsome woman of Coventry, not nude in accordance with the tradition, but dressed in flesh-colored tights, was graced by the dignified worshipful Mayor of Coventry, the High Constable, the wool-combers, with Bishop Blaze and a Bible, St. George on Horseback, sundry brass bands, and a good deal of other tomfoolery.

Though William of Malmsbury omits the story, he does tell us of the Earls of Mercid, who endowed the old Priory of Coventry "with such profusion of gold and silver that the walls of the church seem too confined to contain the treasure, which strikes all beholders with astonishment, no less than 50 marks of silver being scraped off one single beam." But this soon attracted the greed of the neighboring bishops, and Robert de Limsey, bishop of Litchfield, left his own see and came to this golden land of Pactolus, "that he might filch from the churches, treasures enough to fill the king's coffers, deceive the Pope, and gratify the avarice of the court of Rome."

The history of Coventry is full of interest aside from its being the emporium of the ribbon trade. No local history, however, is obtainable, as it does not even boast a guide book. It took an active part in the Wars of the Roses and in the war against Charles I. For its friendship to Henry VI. Edward IV. took the sword from the Mayor and disfranchised the city. But 500 marks so softened Edward's heart that he gave Coventry back its charter, held St. George's feast there, and stood godfather for the Mayor's child. Charles II. was more relentless, and because Coventry refused to admit his royal father he had all the walls battered down and left nothing but the gates standing. Two Parliaments were held here in Henry VI.'s time; *Parliamentum indoctorum* and *Parliamentum diabolicus*. Henry VII. was entertained with great joy here and presented with a gold cup, and the same honor was conferred on James I.

Other monarchs have tarried at Coventry, and no doubt have been loyally entertained.

Devoe said of Coventry: "It drives a great trade; the manufacture of Tammies is their chief employ, and the next to that weaving of ribbands of the meanest kind, chiefly black." He was not much impressed with the place; "the buildings are old, and in some places much decayed; the timber-built houses project forward into the street toward one another, insomuch that in the narrow streets they almost touch at the top." Indeed, the textile art can be traced to a very remote period, a weaver having filled the office of Mayor in 1525. The ribbon trade was not introduced into Coventry till a century and a half ago, mainly through the immigration of French refugees, who had been compelled to leave their country in great numbers in consequence of the revocation of the Edict of Nantes. Since 1861 the silk industry has been declining in England, as shwn in another letter.

During the same period it is a significant fact that under a judicious protection the silk industry of the United States has grown from a product of only \$6,589,171 in 1860, and 5,360 hands employed, to a product in 1880 of \$41,033,045, and 31,337 persons employed. In number employed the United States nearly equals Great Britain, though the origin of the trade in England dates from Lombe's famous silk mill at Derby, completed in 1717, and that of America's industry hardly dates before the tariff of 1860, as the census of 1850 shows that only 857 persons were engaged in the industry, and but little over a million dollars' worth of goods were produced. It is an interesting fact that in 1860 the importation of silk manufactures into the United States amounted to \$32,961,120 and that twenty years later (1880), after the successful introduction of silk manufacture, the imports only amounted to \$32,188,690, while on the other hand the value of the product of American silk factories has increased \$34,000,000. The population of the country has increased 20,000,000, and its wealth proportionately, and the importation of the class of goods has remained practically

the same, the larger proportion being now supplied by home manufacture,

"Oh, but you have increased the price to the consumer," says the British Free-Trader; and his echo in the United States proclaims the same absurdity.

If you care to listen to facts, I reply, we have done nothing of the kind. While the Untted States pays its operatives, in addition to receiving less work from them, 100 per cent more than the same class of work people receive in England, over 200 per cent more than in France, over 300 per cent more than in Italy, and a still greater percentage more than is paid in Germany, the prices of silk goods in the United States have declined since the manufacture has been successfully established there, as follows:

Goods.	Decline in Prices in the Period 1865 to 1882.
Machine twist.....	56 per cent.
Fine silks and scarfs.....	55 " "
Serges and twilled silks.....	62 " "
Handkerchiefs.....	62 " "
Ribbons	54 " "
Laces.....	50 " "
Dress goods.....	30 to 35 " "

In seventeen years, can the consumer expect a greater reduction in the price than this? If all the silk manufacturing had been left to European countries, is any sane man prepared to say there would have been the same reduction in the cost, and that the addition of 30,000 industrious, skilled, well paid, well fed, well housed and ingenious operatives to the world's aggregate has had nothing to do with cheapening the production of silks?

I have already shown that the silk industry, owing to the keener competition of the Continent, is steadily declining in England. It will next be interesting to inquire into the condition of the army of 40,000 persons, who, reduced to starvation wages, still try to eke out a miserable existence in

England in this pursuit. It is estimated that from eighteen to twenty thousand of these operatives live in this city and the surrounding rural parishes. A few weeks prior to my visit here one of the metropolitan newspapers of England published the following in its news columns under the heading of "Wages Agitation in Coventry."

"The agitation for increased wages among the silk and ribbon weavers is rapidly spreading. Another meeting of the men was held on Saturday, convened by the "hands" of one of the largest manufacturers in the city, but attended by many others, "to take into consideration the low prices now paid, and to arrange what steps can be taken for the benefit of the trade." It was stated that, notwithstanding the "starvation prices" paid a few months ago, there had in some instances been a further reduction of 20 per cent in the wages of the weavers, who for making one class of goods known as 5½-inch "mock grograins" could now only earn about 6s. 4d. (\$1.56) per week. It was decided to appoint a deputation to wait upon the manufacturers referred to above with a revised list of prices, and to confer with a general committee recently appointed. Considerable sympathy is shown toward the weavers, many of whom are in the most abject poverty, and some of the manufacturers who are not concerned in the present agitation have evinced a desire to help them.

The end of the above agitation, as I am now informed, was that the men went back at the old rates; that is, they prevented a further reduction.

LXVI.

COVENTRY.—SAD STORIES FROM REAL LIFE.

I HAVE spent a couple of days in Coventry, and in that time have walked all over the city, hiring a weaver, who

was glad to accompany me for a few shillings a day through the streets, and to show me where the working classes lived. The streets are narrow, and the houses very old and rapidly decaying, especially in the central part of the city. Coventry being a clean dry city, and the business of weaving being cleaner than that of coal-mining and iron manufacture, and there being no large manufactories as one finds in the woollen and cotton districts of Yorkshire and Lancashire, the general aspect is cleaner though not less cheerless, when you enter the cottages of the operatives. Most of them were very destitute of furniture, and a couple of looms occupied nearly all the space in the two rooms. The men were pale and thin, and want made the cheek-bones of the women stand out, and their eyes were set in red rings of inflammation. Meat was something they hardly ever tasted, and yet, as one poor fellow remarked, "You want a bit o' meat to keep up your strength for weaving; it's hard work, though it mayn't look it."

Tea and bread and butter are what they live on. Said one woman, looking affectionately at her pale, emaciated husband: "Poor fellow, he never even gets 'alf a pint o' beer." If some of the fine people who wear rich velvets, handsome ribbons and costly scarfs, could see the worn looms, the half-starved weavers, the spare hand that throws the shuttle, the bare room, and the miserable scramble here where it is woven for an insufficient quantity of food, I am thinking their faces might tingle with shame. One English writer has recently very aptly said that the contrast between the velvet of a pall and the corpse it covers is not less striking than that between a pinched silk-weaver seated at his loom and the rich fabric growing so slowly, in spite of the swiftness of his shuttle, beneath his fingers. Indeed, in the whole industry as carried on at Coventry, and I might add in other parts of England (excepting in such immense establishments as the Listers', described in the Bradford letter) poverty and luxury stare strangely into each other's eyes; you cannot help fancying that the beautiful product, vicari-

ously for its future wearers, must feel half ashamed. Here is a fair description of the average weaver's rooms: Both back and front are lighted by weaver's casements, running almost the whole width of the house. Inside the front window stand a few plants in pots, cut down for the winter. The boarded floors are bare. The front room, which is the living room, is furnished with the wife's loom, a bedstead, a chair or two, some old prints and crockery hanging on the walls, and a little round table by the fire. The husband's loom and a few miscellaneous articles furnish the back room. He is a spare man, poorly clad, and, as his face shows, poorly fed, very intelligent, with a good forehead, genial eyes and a pleasant smile. Here is his story:

"Have been all my life a weaver; am now sixty-six years old. I began when I was fourteen; served seven years' apprenticeship. It's next door to starvation. Our trade is dying out, and a good job, too. I told my master once that there'd soon be an end to us, and a good thing too. 'Why so?' says he. 'Why, sir,' says I, 'who'd apprentice his son to learn starvation?—Would you like to have your boy taught such a fine trade as that?' Of course, he couldn't say he would, but he says: 'You may thank your fine free trade for it all. What's the good of cheap bread to you if you've got no money to buy it with?'"

These men can make at most about 10s. (\$2.40) a week, and rent is from 2s. 6d. (60 cents) to 3s. (72 cents) a week. Before giving my own experience in the Coventry district, I wish to quote a description of a silk-weaver's family by the late Dr. Rowe, an English authority, who did much in showing how the work-people live in England under free trade and cheapness:

The door is opened by a woman of from five to eight and twenty. She has not a bad figure, and perhaps when she was a child had a tolerably pretty face. Want is clearly stamped on her face. The room holds her loom and her husband's, a bedstead (on the unmade bed of which lie a baby and a cat) a table, two or three chairs, a few clothes

hung upon a string to dry—and very little else inanimate. The eldest of five children, born in six years, has trotted off to school in dread of the School Board officers. Baby's predecessor died "in fits." Two pleasant-faced but sadly pasty-faced toddlers, wonderfully clean and neat, considering their parents' circumstances, stare at the stranger with big eyes expanded to the utmost. When a mite is offered to the mites, and they are asked if they know how to spend it, the mother answers for them gratefully yet bitterly, "It will buy them something to eat."

Hear the woman's story:

"Yes, I work," she says, "when I've time—when I've done up the place and dressed the children, or when they're abed. But it isn't much I can do with a baby, and them two so little. Perhaps I may earn 8½d. (17 cents) a day, sometimes. Besides waiting at the master's, we lose about a quarter of our time doing work for which we get no pay. It will take me two hours and a half to get this ready," she explains as she fingers the blue, flossy threads stretching along her loom.

The husband then comes forward in his shirt-sleeves. He is a stubbly-bearded, prematurely aged man, of about three or four and thirty, with stooping shoulders, hollow cheeks and deeply sunken eyes. He is civil and pleasant to speak to, but not so hopelessly resigned to his lot as the older men.

Hear the husband's story:

"Yes, they're nice little 'uns," he says, "and it's hard for a man to see his children dragged up this fashion and not to be able to better it. Working twelve to thirteen hours, perhaps, I may make 2s. 6d. (60 cents) a day. If you were to come in at 9 to-night you would find me at work. I don't believe I made more than £20 (\$96) last year. Live, sir? We don't live—only just muddle to keep off dying. When people talk to me about the price of meat, I often say that it wouldn't matter to me if there wasn't no meat at all. We never get none—'cept, perhaps, now and then half-a-pound of bullock's liver between the six of us."

But then England expends fifty millions annually "for our commercial policy" on its paupers, and is ever ready to "assist" its industrial poor.

Hear the husband's pathetic story on this point:

"Well, yes, sir, I'll own I was once driven to apply to the parish, and I was blackguarded as if I'd robbed a church. It was to bury the poor child. How was I to raise £2 (\$10) ? So I went to the parish. I happened to go in a coat that a lady gave me—there it hangs. If she hadn't given it to me I shouldn't have had a coat at all ; and because I'd a coat on they said that such a gentleman as me ought to be ashamed of himself to come begging. They needn't have told me so. I was ashamed enough to have to ask any one's help to bury my poor little'un. There was some talk of putting me to stone-breaking. Why, stived up here all day as I am, I could scarce have lifted the hammer, and my hands wouldn't have been much good for weaving afterwards. Says one of 'em : 'We've all our troubles to bear, my man.' Thinks I to myself, 'Perhaps you may, but troubles are a deal easier to bear when you've good food and fires and clothes, and no likelihood of losing of 'em. Whatever sorrows you've had, you've never had the sorrow of a hungry belly, and half-a-dozen more hungry bellies round you that belong to ye.'"

Hundreds of similar cases to the above can be found in Coventry and the surrounding neighborhood.

LXVII.

STARVATION WAGES IN COVENTRY.

I called at the house of one of the best weavers in Coventry, on King William street, in what is called "Ill-fields." He had several looms at the top of his house, and used steam power. In the palmy days of the ribbon and

silk trade he used to make £15 a week, where now he could not make over £2 (\$10) and did not make more than £1 (\$5). He told me that half the weavers of Coventry were actually starving.

"There is my son," said he, pointing to the likeness of a handsome-looking young fellow on the mantel; "look at him, sir, as fine a boy as ever lived, sober, industrious; and what do you think he earns at weaving? Why, ten or twelve shillings a week (less than \$3), and he has a wife and child to maintain. A real intelligent lad, sir; I wish you could see him."

"There is much distress in Coventry," said I.

"Why, I tell you half the weavers are starving," replied the weaver; "some of the other trades have helped them a bit by subscriptions."

I then read to this man the item quoted in my last letter on the wages agitation at Coventry and the actual amount of earnings. He said it was in the main correct, only did not half tell the story of want and misery, which had been brought upon this once thrifty community through admitting the cheap competition of countries the climate of which enabled the people to live on less than English operatives could exist on. "Why," said one weaver, "the people that wear ribbons and silks and carry watches (the staples of Coventry) can afford to pay for them. We are agitating the subject here and have Fair Trade meetings, and some of the members of Parliament who are not led away with the free-trade theory, hope to be able to do something for us."

The history of the ribbon trade forms an interesting study in industrial history. A change of fashion in 1812 suddenly occasioned an extraordinary demand for ribbons with large pearl edges, and a golden age dawned on the distressed weaver at Coventry. Some old weavers will to-day tell you of the "big pearl time." Strangely enough, at that time the watch trade at Coventry was suffering great depression, and it is said that the following advertisement was printed:

WANTED,
FIFTY DISTRESSED WATCH-MAKERS
TO
Shell peas for the
WEAVERS.

Wages at this time rose to an unprecedented height, and ended in disagreements between master and man, until finally the temporary demand fell off. Several "lists" were established and were subsequently broken by strikes. In 1835 the last list ever established was promulgated, and continued to form the acknowledged basis of prices in the plain engine-weaving till the collapse of the trade in 1860.

Timmins, in his history of the Coventry ribbon trade, brings out the fact that among the many vicissitudes which the ribbon trade has undergone during the last few years few are more remarkable than those consequent on the discovery of the aniline dyes. Owing to the great beauty and variety of the colors produced by these dyes, perfectly plain ribbons have almost completely superseded the old elaborately figured fabrics in popular estimation. Now that silk can be dyed in colors surpassing the old tints not only in brilliancy but in permanence, and a perfectly plain ribbon can be woven in which the most practised eye can detect no imperfection, there exists no longer any practical hindrance to the production of unfigured fabrics, for which modern taste has created an abundant demand.

The prejudice in this vicinity against the factory system still exists in the minds of the weavers, though I was told it was dying out. Indeed so far as my observations went, I think those employed in the factories were better off than those working at home in the cottages. At first the worst classes of weavers are said to have found their way into the factories. But these have been eliminated, and they now employ what may be termed the middle classes of weavers. Then the highest and the lowest are now to be found among the out-door operatives. In the best of times the wages of

females in the factories range from 7s. to 10s., or on the average not over \$2 a week.

Next to the ribbon trade Coventry is celebrated for watches, and probably about 2,500 persons are engaged in this occupation. I had a long conversation with a watch-maker who was sixty-four years of age, had served his regular apprenticeship to the business and actually worked at it for half a century. He told me that he now received 6s. (\$1.44) for the same amount of work that he formerly was paid 26s. (6.24) for ; that under protection he could earn £6 (\$30), but now he was lucky to make 30s. (7.50) a week. "But, sir," said the aged and bent watch-maker, "the Fair Traders are agitating things, and a great feeling is growing. It is all owing to the cheap labor abroad, and I assure you I could show you my expenses when I earned £6 a week. We get nothing now cheaper than then. Good meat, sir, is a shilling a pound (24 cents), and all provisions are very dear. I can hardly live on 30s. a week." The old man pointed affectionately to the placard in his window announcing the meeting of the "Fair Trade Club" on Friday night, and asked me to stay and attend. He said : "Some of our most prominent men are interesting themselves in this matter."

I made inquiry about the bicycle trade of Coventry, of which so much has been recently said. I found it was not very extensive. I met several bicycle makers loafing in the square. They told me they earned from £1 to 24s. a week, but that they were generally out of work about three months in the year. Altogether the present condition of the industrial classes in Coventry is far from satisfactory. There is a great deal of poverty and suffering.

LXVIII.

NORWICH—DECLINE OF THE SILK INDUSTRY.

FEW who have not studied the growth and migration of industry in Europe appreciate the important part that the revocation of the edict of Nantes in 1685 played in starting British manufacturing. From the Huguenots England learned the arts, trades and perfectionment of thread and lace, woolen weaving and dyeing, cambric making, ship-building, button making, pottery manufacture, the construction and use of wind-mills, gardening, hop-growing—

Hops, reformation, bays and beer
Came into England all in a year.

It is silk and its manufacture that I propose to deal with in this letter, and though I have visited the ten towns in which the manufacture is carried on, I have dated my letter from Norwich, where the refugees first established the silk manufacture in the reign of Queen Elizabeth. Defoe, traveling in the vicinity of Norwich in 1742, says: "An eminent weaver of Norwich gave me a scheme of their trade on this occasion by which, calculating from the number of looms at that time employed in the city of Norwich only, he made it appear very plain that there were 120,000 people busy in the woolen and silk manufacture of that city only; not that the people all lived in the city—though Norwich is very large and populous—but they were employed for spinning the yarn used for such goods as were all made in that city."

On the introduction of steam power, the silk industry along with the wool industry migrated to Lancashire and Yorkshire and to Macclesfield and Coventry. Though Norwich is of little importance as a silk center to-day it is only fair that my story of the English silk industry should begin

in this ancient, rare, rich, beautiful, and interesting place. The quaint and antique streets and houses of this picturesque city were once filled with industrious silk weavers and spinners, who plied their avocation in their houses before the tall chimneys and clattering machinery of England's innumerable Coketowns were thought of. The Romans, the Saxons, the Danes, and the Normans all came to Norwich in their turn, but it has been truly said there was one race that came hither—the Dutch—which added most to the town's wealth. For they came not with slings nor with stones; nor argued in armed phalanxes, nor settled a question with battle-axes, nor made it clearer by incendiarism, nor crushed men into earth, and boasted of all being at peace. They brought rich gifts with them—industry and ingenuity, taste and invention, conception and execution. They came with their silks and threads and worsteds and implements, and their camlets and bombazines were manufactured to charm East Anglia, enrich the Dutch, and give impulse to the Norfolk people to do the like.

The centers of the silk industry in England are at the present time Congleton on the Dane, in the neighborhood of the wild moorland country which borders Derbyshire and Staffordshire; Macclesfield, a somewhat unattractive town in North Staffordshire; Leek, a small town near Macclesfield; Coventry, with its two famous spires, the center of the ribbon trade; the rich old town of Derby where may be seen to-day the first silk mill built in England; London, where in 1629 the silk throwsters of Spitalfields formed an association; Manchester, once employing 20,000 looms; Nottingham, noted for its lace, hosiery, and gloves, and the now almost deserted Middleton, formerly employing 5,000 operatives in silk-weaving, and Bradford, with Listers, immense silk mills, one of the most successful establishments in the world.

The manufacture of silk was introduced in 1752 into Congleton by John Clayton; into Coventry the beginning of the eighteenth century; in Derby by John Lombe in 1717, and I

have sat in a clean little public house in the vicinity of the "Old Silk Mill" on the Derwent, and listened to a white-haired weaver tell the story of John Lombe's life and of his tragic end at the hands of an emissary of the Italian manufacturers, whose secrets he had obtained. The trade came to Macclesfield about the middle of the seventeenth century, and from thence to Leek, where there are twisters' "wheel-heads" to be seen one hundred years old. In London the industry was founded about the same time as in Norwich. In Manchester and Middleton it began about seventy years ago, and in Nottingham and Bradford it was small at the beginning of the present century.

Congleton is famous for its broad silks, handkerchiefs and velvets; Coventry, at the present time, for its plain and fancy ribbons; Derby, formerly for hosiery, but now for elastic heels and surgical stockings and bandages; Leek, for sewing silks and twist, fringes and embroidery, silks of all kinds, buttons, bindings, etc.; London, umbrellas, silk stockings, parasols, velvets, damasks, and trimmings; Macclesfield, ladies' ties, carcenets, plain and figured piece goods; Manchester, figured goods; Middleton, black gros grains; Nottingham, lace, hosiery and gloves; and Bradford, velvets and spun silk goods of all descriptions.

Before the suicidal policy of free trade ruined the British silk industry it flourished in all these centers. In Congleton, twenty-five years ago, 5,186 operatives were employed, and to-day only 1,530; in Coventry 40,600 people were dependent on this industry, to-day not more than quarter of the number are engaged in the ribbon trade. In Derby 6,650 were engaged twenty-five years ago, to-day only 2,400. In the most prosperous time of the industry in London 60,000 were employed, to-day only 4,000. Between 1841 and 1851 over 15,000 hands were employed in this industry in Macclesfield, to-day much less than this number. The 5,000 employed in Middleton in 1850 have decreased to about 400 in 1884.

Basle and St. Etienne send their goods free of duty into

the English home market and compete with Coventry. Germany and St. Chamond send in their braids and displace those of Leek. Roubaix, Lyons, Crefeld, and Milan have exterminated the once flourishing industry of Spitalfields. Germany, Switzerland, Italy, and France are pushing the Macclesfield goods out of the home market. Germans are underselling the Middleton district in galloons, and Calais undersells Nottingham in lace and hosiery. The effects of the French treaty, which Mr. Cobden negotiated in 1860, were most disastrous. From that moment the industry began to decay. I ask any fair-minded free-trader to reply to the facts which I give below and which cannot be contradicted.

At Congleton the ribbon trade left the town. Throwing trade gradually declined, particularly in Italian silks. In Coventry it ruined the trade. In Derby it greatly reduced silk throwing. In Leek it injured the serge trade. In London it brought ruin to many. A gradual reduction of Macclesfield production followed its enactment, while it destroyed the trade of Middleton, and in Manchester the silk trade practically died out. Nottingham was alone the exception with regard to the bad effect on the silk trade of the French treaty of 1860. It may even have derived a slight benefit from it, because the products are of such a nature as to command a demand for them abroad. Never was a more wanton and cruel blow aimed at a flourishing industry. In 1857, a few years prior to the ratification of the treaty, the import of raw silk into England aggregated 12,077,931 pounds. Since then it has dwindled year by year, as foreign manufactured goods have forced their way, free of duty, into the home market, until the last six years it has hardly averaged 3,000,000 pounds per annum—in 1883 being 3,178,593 pounds, and in 1881 sinking to 2,904,580. On the other hand, the imports of manufactured goods have gradually increased in value from about \$10,000,000 in 1857 to \$102,620,000 in 1883. A duty of 15 or 25 per cent on this luxury would have held this important industry for Eng-

land. The untold misery endured by those thrown out of work through free trade may be read in these figures. In 1861 the census gives 117,989 as the number of hands employed in the United Kingdom in the silk industry; in 1881 the same source gives only 63,577.

LXIX.

MACCLESFIELD.—CAUSE OF THE DECLINE.

A TABULAR statement was recently prepared for the use of Parliament in which one of the questions addressed to the several silk centers of the kingdom was, "Causes which have led to the decline of the silk trade?" To which each town replied as follows:

Congleton—Withdrawal of protection.

Coventry—Free imports of French and German goods, combined with high duties imposed by other countries on our goods.

Derby—Withdrawal of protection.

Leek—Sewing-silk trade maintained itself.

London—Withdrawal of protection.

Macclesfield—Free importation of French and German goods (especially black silks, velvets, and mixed goods).

Manchester—The French treaty.

Middleton—The French treaty of 1860, coupled with the adulterated dyes introduced into England by the French manufacturers.

Nottingham—No decline, owing to the large increase in the use of silk-lace.

If these replies are not a sad commentary on theoretical political economy I am at a loss to know what is. The trade of seven out of nine towns destroyed for an "economic principle." Thousands of industrious people forced to become paupers, and those who still find employment reduced to

the lowest rates of wages. In the subjoined table I have grouped together the actual wages paid at the present time to winders, weavers, and dyers in each of the British silk centers:

WEEKLY WAGES OF SILK WORKERS.

SILK CENTERS.	Winders.	Weavers.	Dyers.
Congleton.....	\$1.92	\$3.60 to 4.80	
Coventry.....	1.44	2.16 to 3.60	\$2.88 to 4.80
Derby	2.16	4.80 to 9.60	5.04 to 6.00
Leek.....	....	....	4.32
London	2.40 to 3.60	3.60 to 12.00	4.80 to 8.40
Macclesfield	2.16 to 2.40	3.12 to 3.36	4.84
Manchester.....	2.40 to 2.88	3.60 to 4.32	4.70 to 4.84
Middleton.....	2.88	3.60	4.70
Nottingham	2.40 to 2.88	2.88 to 3.60	7.20

With the exception of certain classes of weavers and dyers in Derby and London, and of dyers in Nottingham, the average weekly earnings of operatives in these towns are far less than \$5 a week. The exceptions are rare, and for some special work. The average pay of winders does not exceed \$2.50 a week in England, as against probably more than double that sum in the United States; \$3.50 to \$5 per week is a liberal rate for weavers who earn in the United States from \$7.50 to \$11 per week. Outside of London, Derby, and Nottingham dyers' wages in no case reach \$5. In London and Derby the minimum is about \$5 a week, while in Nottingham, owing to the special character of the work, \$7.50 is paid. I should say that \$10 a week is the minimum pay at home for dyers, while the maximum will reach \$21 a week and even more.

In this bird's-eye view of the silk industry of England we have learned something of its origin, distribution, growth, and decline under a mistaken economic system. The facts presented here for the first time to American readers cannot be controverted. In spite of all pretenses to the con-

trary we find that one of the most important of England's great industries was blighted by free trade. Practical men read these facts and are convinced. Theorists read them and proceed to argue what is isn't. In the course of this series of letters I propose to examine the other important industries of the kingdom, and thus ascertain as far as possible the measure of success attained by free trade. I have given above some idea of the extent of this industry in its most prosperous days, when not less than 150,000 persons found employment in its various branches. At the present time, as we have seen, not more than 50,000 or 60,000 persons are employed in the industry. In 1859 there were forty firms of silk throwsters in Congleton. At the present time there are but twelve throwing mills, with on an average only about three-fourths of their machinery at work. Great efforts have been made in Coventry by the manufacturers to uphold the position of their goods in the markets, but free imports into the home market and the high tariffs of foreign nations have almost landed them in despair. In Derby I found that no statistics of the silk trade were kept, but it is generally admitted that the effects of the French treaty were prejudicial. Had I the space it would be interesting to dwell on the history of the silk trade of Leek. As far back as 1673 Leek was described as a poor town. In 1773 Dr. Johnson, whose father was an apprentice in Leek in 1668-70, wrote: "I have seen but one new place this journey, and that was Leek in the moorlands—an old church but a poor town." Button-making in silk and mohair and twist may be traced back 200 years in this town. Undoubtedly some of the Dutch refugees made their way to Leek. Hand-made buttons are still made in Leek and the neighbouring villages, the makers earning the smallest pittances. There are about three hundred persons at present employed in button-making in this vicinity, earning from 96 cents to \$1.92 per week. The special trade of the place is "small wares." Leek is also celebrated for a raven-black dye. There is no dye like it in the world, and it is supposed that

the waters of this moorland neighborhood are among the best in Europe, and have helped Leek to retain the monopoly of being the only sewing-silk center in England. I have prepared the following wage-table (which is official), that our sewing-silk operatives may compare it with the wages paid in the United States:

	Wages per week.
Dyers (about).....	\$4.82
Cleaners.....	1.68 to 2.16
Doublers.....	2.40 to 2.60
Spoolers.....	2.60 to 2.84
Pickers.....	3.60
Twisters.....	5.90
Twisters' helpers.....	2.16
Binding power-loom weavers.....	3.80 to 6.00
Hand-loom broad silk-weavers.....	2.40 to 5.90
Men at spinning and throwing mills.....	3.40 to 4.32
Braid-makers.....	4.84
Warpers.....	3.36
Lace-taggers.....	1.68 to 2.00

The silk industry of London reached its most important notch in 1825. Free trade and lack of taste in designs have both contributed to its downfall. Efforts are now being made to produce finer goods than ever before manufactured in England, and of the purest dyes. A small rate of duty would soon change the tide in preference to foreign heavily weighted goods. Macclesfield has developed no particular style of work, but been content to copy French designs. The decline of the silk industry of Manchester and in its immediate neighborhood comprising a considerable number of districts has been very marked. It is directly traceable to the French treaty. The school of art at Nottingham, one of the best in the Kingdom, has had great influence on the success of the lace-trade, producing designers of great merit, who have been eagerly sought for, not only in Nottingham and in other parts of Great Britain, but also in France, Spain, and America. Derby has a school of art, and all these centers of the silk manufacture in England ought, in my opinion, to give more attention to designing and technical education. Indeed, as we shall see in our tour through

the industrial districts of continental Europe, unless they do give more attention to original patterns and designs, and to chemical research, they will be passed in the race by nations who were far behind England in manufacturing half a century ago.

LXX.

WORCESTER—ITS GABLE-ROOFS AND QUAINT COURTS.

It was a bright, sunny day when I arrived at ancient and loyal Worcester. The surrounding country looked like a beautiful garden. The gable-roofs, the fine cathedral, the gray-stone churches, the clean streets, the bright shops, the quaint courts, the brisk, healthy people of the old city, and the cosey hotel, formed a pleasant contrast to the gloomy potteries and the dismal and smoky Black Country which I had so recently left without regret. The Severn, so red and angry at New Passage, approaches Worcester in a gentler manner, as if admiring the town, which deserves admiration, whether one regards its consistent history, its unquestioned antiquity or its picturesque beauty. In Leland's time "the wealth of the town standeth mostly by drapering, and no town of England at this present maketh so many cloathes yearly as this town doth." A century later one of the old historians wrote of Worcester: "But this glory arises from its inhabitants, who are numerous and polite and possessed of great wealth by the woolen manufacture; from the lustre of its buildings, the number of its churches, and by its magnificent cathedral." In this cathedral, says Defoe, "among other noted monuments, is one for that famous Countess of Salisbury who, dancing before Edward III. in his great Hall at Windsor, dropped her garter, which the King, taking up, honored it so much (as the idle story goes) as to make it the denominating ensign of the most

noble Order of the Garter. But this I have refuted under my account of Windsor, though that the countess did drop her garter is a fact; and the King might gallantly, to silence the jests and railleries of the Court, wear it during the entertainment instead of his Garter of the Order." Be that as it may, "the monument is fine, and there is this remarkable in it, that there are several angels cut in stone about it, strewing garters over the tomb."

As late as 1760 much mention was made of the cloth industry of Worcester—"the number of hands which it employs in this town, and adjoining villages, in spinning, carding, roving, fulling, weaving, etc., is almost incredible." That the Worcester people appreciated the value of the cloth industry, the following old verses indicate:

Clothing doth other trades exceed as farr
As splendid Sol outshines the dullest star,
By it the poore doe gain their lively hood,
Who otherwise might starve for want of food.

Again:

Advance but clothing and one need not sayle
To Colchus, against dragons to prevayle,
Or yoke wild bulls to gain the golden fleece,
As Jason did who stray'd so far from Greece.

They heeded not John Lewis and did not advance this important trade. The decay of this trade is said to be owing to the roguery of the manufacturers in stretching their cloths, but centuries before that period the clothing trade of the kingdom was noted for trickery. To-day, such is the vicissitudes of trade, that the industry has entirely died out; not a yard of cloth is now manufactured here.

It is gratifying to know that more than a century ago, Worcester was "adorned by a spacious and beautiful structure, called a public workhouse, in which," we are told, "children of both sexes are trained up to the knowledge of trade and the practice of religion and virtue." I re-

gret to say that this much cannot be said of the 650 "capacious and beautiful structures," called "public workhouses," which "adorn" this entire island at the present time.

To hear Englishmen of to-day talking about "our commercial policy," one would hardly think that their "policy," or rather theory, was a century old, while in practice it is less than fifty years. It is amusing to read of the restrictions on trade in Worcester, or for that matter, of any of the old English cities. In the "good old times," a Worcester brewer dared not sell one drop of his liquor till "some sadde and discretee" personage from the corporation had tasted it and given his approval. Smithy had the length of his horse-shoe nails prescribed to him, and the corporation knew how many weeks every skin in the city was in tanning. It was a dangerous thing in those days for the fair dames of Worcester to wear "any gown of silk, any French hood, or bonnet of velvet, any chain of gold about her neck, or wear any velvet in her lining or other part of her gown, other than her cuffs." The penalty for wearing this sort of finery was "to keep continually and maintain one gelding, with sufficient harness and weapons for a light horseman."

The Mayor and Aldermen of Worcester were never known to lose an opportunity to feast, especially at the cost of the city. Not only did they eat over the business meetings, but "whenever any work of repair or improvement was to be inspected in the city, also after perambulations, or when bishops sent a buck, or when news of peace or war arrived." When James II. visited the city in 1687, he attended divine service at the Roman Catholic chapel. The Worshipful Mayor of Worcester, who evidently felt he had the Protestantism of the nation in his keeping, refused to accompany the King into the chapel, remarking: "I think we have attended your Majesty too far already." The worthy Mayor repaired, however, to the Green Dragon, and "beare and tobacco," also "sundrie banckequets and drynkyns," were all charged up to the corporation.

LXXI.

WORCESTER.—THE ROYAL PORCELAIN WORKS.

WHEN George III. visited Worcester in 1788, he is said to have got up very early and visited the great porcelain works for which the city has been for more than a century famous. He greatly admired the beautiful display, and ordered an extensive assortment, and to express his royal approval he granted his warrant permitting the establishment henceforth to be called "Royal." These works were established in 1751. The staple manufacture of the city had been declining, the cloth manufacturers had been driven away, as I have already shown, by unsatisfactory trading; carpets and gloves were still made, but did not afford sufficient occupation for the people. The manufacture of porcelain was engaging the attention of the Princes of Europe. Bow and Chelsea in England were then the seats of the trade. Worcester began the trade about this time, making a fine porcelain, and decorating it after the Chinese taste. The styles adopted at Worcester were varied, but were generally selected from the finest examples of Japanese and Chinese, and Dresden manufacture, as well as the very beautiful ware of Sevres and Chelsea. From 1760 to 1775 some extremely beautiful wares were produced. In the early part of the present century, Worcester had few competitors in the manufacture of first-class porcelain. It was encouraged (as all such manufactures must be) by the patronage of the King and Royal Family, which the company admit "was liberally accorded, and stimulated the production of both fine porcelain and artistic production." Indeed, "a special body called Regent Porcelain was invented for the Prince Regent, and found great favor in Court." Aided by kings and princes, and after an existence of over a century, these

great works now employ more than 600 persons, and have a world-wide reputation.

The manufactures of this establishment embrace the following varieties: fine porcelain, ivory porcelain, vitreous stone-ware, crown-ware, Parian, majolica, and terra-cotta. The styles of decoration in use at the Royal Porcelain Works embrace all those usual on pottery and porcelain, but the specialty peculiar to this work are perforated porcelain, ivory porcelain, Raphaelesque decorations, bronze and metallic decorations, jewelled porcelain, enamels on royal blue and modelled and colored golds. A learned Frenchman once said: "I know of no art which presents, in the study of its practice, its theory, and its history, so many interesting and varied considerations as the ceramic art." And for these reasons it should receive all the encouragement possible in the United States. Few who have not visited these establishments can appreciate the work in even a single piece of the commonest earthenware, to say nothing of the beautiful designs of such places as the Worcester factory and Minton's. To produce an ordinary cup "the clays of Dorset and Devonshire, the flints of Kent, the granite of Cornwall, the lead of Montgomery, the manganese of Warwickshire, and the soda of Cheshire, must be conveyed from their respective districts;" and after all the material arrives on the ground it must pass through, on the average, at least eighteen different hands or processes before it can be sent out in a perfect condition—the miller, the slip-maker, the preparer of clay, the baller, the thrower, the carrier, the turner, the handler, the biscuit firemen, the scourer, the dipper, the gloss-fireman, the sorter, the printer, the painter, the gilder, the enamel fireman, and the burnisher. I have discussed in a previous letter the classes of operatives, and shown the great excess of wages paid each grade in the United States over England. It must also be borne in mind that 90 per cent, if not more, of the value of pottery and porcelain, is labor.

It is to be hoped that with the slightly increased protection

recommended by the Tariff Commission and adopted by Congress, the manufacturers of Trenton will turn their attention a little more to printed ware. The English potter is very dissatisfied with the new tariff, and the newspapers here declare that "competitive foreigners had succeeded in supplying at low prices wares of new designs and pleasing decorations, which cannot be produced in the United States. The tariff virtually prohibits the further importation of this class of goods, by classifying them with the most costly chinaware, so that an ornamental plate worth \$3 and another worth only eight cents will both have to pay the same rate of duty, 60 per cent ad valorem. The aim of this unjust classification is to compel the consumer to give up the purchase of cheap imported printed ware which cannot be made in the United States, and drive him to buy the white goods that are made there. People must, therefore, remain content to take their coffee in ugly white cups, that weigh something less than a pound each, and are not quite half-an-inch thick."

The animus of the above is plainly seen, and the same newspaper characterizes American manufacturers as "the clumsy crockery makers of New Jersey." This rather provokes a smile after reading the three quotations in my Burslem letter, all from English authorities, in which they speak of the wonderful excellence of American ware. But the excellence of our plain ware was thoroughly established in the testimony before the Tariff Commission. As to decorated ware, the potters themselves frankly admitted that "our decorations being confined to very cheap and common patterns, are mainly used for toilet wares." Again Mr. Brewer said:

Of course, it has been impossible for us to compete with the cultured, educated, and well-trained hands of England or the Continent, in general decoration, as we have had to content ourselves with bands and lines, or some cheap and special American patterns. Not that this feature of our business pays us at all (for it does not pay); our competition

in this branch of our trade is the most unequal of all. But being potters, our people demand that we advance. We must advance or have our whole market taken away by a supersedure of decorated for plain wares. Europe has cultivated, by subsidy, by schools of design, by Government potteries, this particular branch, until almost every household has its decorator. They have labor in this line in great abundance. We must create, cultivate, and by slow degrees grow into this branch of the trade. True, we could import, and, to a very great extent, must import this labor ready-made, so to speak, but here we meet the greatest obstacle. This branch of the trade is the best paid abroad, and workmen must have great inducements offered to induce them to leave their present profitable employment.

This is certainly true at Worcester—the employees of the Royal Worcester Porcelain Works are a very superior class of men. They live in comfortable houses, and are interested in all sorts of artistic studies. A Government school of art located here was established more than thirty years ago. It is well conducted, and the Earl of Dudley is the president. The same is true of the pottery. Besides the Wedgewood Institute, which Mr. Gladstone, in his opening address, characterized as “a national institution,” there are several art schools, and Government schools, all for the purpose of fostering this important and truly beautiful art, which has never flourished in Europe except under the most distinguished patronage. There is, I believe, only one manufacturer in the United States who makes a line of table-ware porcelain, and he admitted before the Tariff Commission that if the present rate of duty was adhered to he could extend the manufacture. It is not probable that with the competition of such establishments as Minton’s, Copeland’s, and Worcester, America will make much headway in the highly decorated ware, but there is no reason why the Trenton potters should fail to keep their promise to the Tariff Commission and produce a good, cheap and yet handsome line of printed goods, and in this way prove how utterly

false are the charges recently made by the English press that they "cannot make cheap printed ware." They can make better white ware than the English, and with a more satisfactory classification of the tariff there is now no reason why they should not make good common print-ware. Will the Trenton potters rest under this charge of "ugly white cups that weigh something less than half-a-pound each, and are not quite half-an-inch thick!" Surely not.

LXXII.

NOTTINGHAM—THE OLD CITY OF TIGGOCOBAWC.

NOTTINGHAM was a town a thousand years before Christ. John Rouse at least thinks so, and I have no desire to question him nor space to enter into speculation on the subject. A later writer very aptly suggests that, if there be truth in the legend, one would like to know something of the manners and customs of the old and young people; how they lived, how they made love, how they did not dress, how they cooked their hips and haws, and what good liquor they swallowed with that primitive diet. The old city was known by the rough British name "Tiggocabawc." The son of Alfred the Great has been credited with founding Nottingham, but antiquarians now say that he founded half of it, uniting the ancient city of the unpronounceable name by a bridge with the new city he had formed. He founded what some have called an opposition city, partly military, partly commercial, to awe and to stimulate. This he did at Nottingham. He settled as many Danes as Saxons. "Enemies," says Dr. Doran, "then became friends; we cannot doubt that the old people entered into partnership, and the young people followed the example of their parents. The shy Olga learned to raise her soft blue eyes in trusting love upon the straight-limbed Saxon Edwy; and on the broad chest of the

Danish Sciold lay the fair head of his young wife Ethelfleda, 'like Hebe in Hercules's arms !'" Of such ancestry (with a cross of wholesome pagan blood) comes the present Nottinghamshire race.

Unlike the cities which formed the topics of my last letters (Coventry and Worcester), Nottingham was never stormed and taken by an invading army. It came nearest to it when the thrifty Yorkshire Royalists, not caring about making those "clothing-towns" the seat of war, persuaded Charles I. to go to Nottingham and hoist the royal standard. But it was a stormy day and the wind blew the standard down, and when after a few days it was finally set up again, no one paid much attention to it. To use the words of Clarendon: "There appeared no conflux of men in obedience to the proclamation; the arms and ammunition were not yet come from York; a general sadness covered the whole town, and the King himself appeared more melancholic than he used to be." But Charles soon left it, I have no doubt to the great joy of the inhabitants, and the Parliament kept possession of the town and the castle till the close of the war. The castle, long before the days of the Stuarts had acquired a gloomy pre-eminence on account of the procession of royal murderers who, in some way or other, were connected with it. It was originally built by an illegitimate son of William the Conqueror. Poor Edward II. held a great feast within its gray walls, drank wine and laughed at the jests of his subsequent murderers. His wife, the light Lady Isabel, with Mortimer, fled into this stronghold, and for a time defied Edward III. The Queen, it is said, ridiculed their efforts, and slept soundly, with the keys of the castle under her pillow. The young King for a time was obliged to bite his lips and kick his heels in the market-place below, while his festive mother looked down from the high parapets of the castle with scorn upon her enemies. But through treachery admission was obtained, and while Mortimer was hurried off to London to adorn a gibbet, the Queen was taken to prison, where she ended her days. Again, I have no

doubt, Nottingham rejoiced, for royalty rarely visited the town but to perpetrate or plot some crime.

In Nottingham Castle Richard II. planned the murder of his uncle, the Duke of Gloucester, and for this deed Kent, Rutland, Huntingdon and Somerset won their steps to the peerage, while Thomas Mowbray, for superintending the affair, was raised to the rank of Duke of Norfolk. Many distinguished prisoners have been reduced to skeletons in the dark, damp cells of Nottingham Castle, and this reminds me that when the grandfather of this Richard II., Edward III., was old, "a year or two only before his death, when Alice Ferrers was as saucy and imperious as ever the Du Barry was with Louis XV. and his people, there was carried through Nottingham, up to the Castle, a prisoner at whom the citizens stared in respectful wonder; but they felt much indignation at the woman who was the cause of his captivity. For a stern word uttered to this Alice, Petrus de la Marc, Speaker of the House of Commons, or holding an office equivalent to that called so now, was thrown into the keep at Nottingham Castle, where he lingered a couple of years."

But I had almost forgotten a memorable event in the history of Nottingham, which took place in 1485, when, no doubt, the magnificent market-place (the largest in the kingdom) was "alive, trembling or rejoicing," at the mustering hosts Richard III. had called there just before the fatal battle of Bosworth Field. The Silver Boar, it is said, sparkled on the banners. The gazers, at his passage through the streets, flung up their caps, or held their voices mute, according as their judgments, caprices or impulses prompted them. I have no doubt, as when Charles I. left the town, the good people of ancient "Tiggo cobans" breathed freer and in their secret hearts rejoiced.

The Nottingham folk have always been noted for their capacity to enjoy good beer, and centuries ago the town was noted for its ale. In olden times the jolly laborers "after dinner sat and drank, with liberty to leave the hall three times and return as often to drink as much as they could

carry under their girdles." And then, in joyous procession, they were allowed to carry away a bucket containing eight flagons of beer. The Nottingham municipal corporation, noted for its hospitality to guests, never feasted itself, and in this was exactly opposite to the neighboring City of Worcester. After the ceremonies inaugurating the new Mayor came a frugal banquet, in which bread and cheese satisfied the appetite, and pipes and tobacco were added as luxuries. Nothing is said about fine old ale. Nottingham to-day has more than a thousand public houses and beer shops, and at night they are crowded. A recent city official said to me: "Nottingham has the reputation of being the most drunken city in the Kingdom." While I think this rather a strong statement, I must admit that a tremendous amount of heavy beer drinking is going on, not only among the men but the women and even girls. There were about 1,300 convictions last year for drunkenness, against 264 convictions in Bradford, a larger town, but containing less than half the number of drinking shops.

For six centuries Nottingham has been a manufacturing town. Like Dundee, Scotland, it has tried many things, and at last it has made a grand success. The industrial procession of the past would be headed by woolen cloth (the manufacture of Lincoln green cloths in King John's time), followed by malting, hardware, tanning, bone lace-working, framework knitting and lace-making by machinery, which latter form to-day the great industry of the place.

LXXIII.

NOTTINGHAM—ITS LACE-MAKERS.

To say, says a recent writer in *Blackwood's*, that the fine and delicate machine-made fabric which falls in soft folds before our windows, or forms the graceful, cloud-like

charm of a ball-dress, owes its origin to the useful but unbeautiful stocking, may at first sight seem as absurd as to attempt to trace the descent of a humming-bird from a frog, but that hosiery is the parent of lace is nevertheless true. It was by the many varied modifications of the stocking frame that machine-made lace was first produced. Else, Harvey Hammond, Lindley, Frost and several others for years exerted their ingenuity in perfecting a machine for manufacturing a machine-made imitation of the costly and beautiful article known as hand-made or cushion lace.

The love of beer, which has been shown to be a Nottingham characteristic, is said to have been the first incentive to Hammond's inventions in this direction. He had been refused entertainment at a public house for want of money. Inspired by a desire to gain enough silver for the purchase of his coveted beer, Hammond went home and applied himself eagerly to the production of what he called "Valenciennes lace." It sold well and quickly, and enabled him to satisfy the end for which he invented it. He spent most of the money it brought him in drink. But the great invention was the frame for making "bobbin-net," a machine which would produce twisted and traversed meshes in net. Until this object could be effected the mesh was neither durable nor secure, and its utility was seriously imperilled. It is said that nearly twenty artisans spent the better part of their life in this search, but in 1808 a Derbyshire man named Heathcoat achieved what for years had seemed an impossible feat, and produced one of the most complex and ingenious inventions of modern times. Heathcoat thus has the credit of having founded the manufacture of machine lace, and helped to raise Nottingham to its position of importance among the manufacturing towns of Great Britain by the construction of a machine which Ure describes as "surpassing every other branch of industry by the complex ingenuity of its machinery. A bobbin-net frame is as much beyond the most curious chronometer as that is beyond a roasting-jack." A great check to the then fast-increasing prosperity

of Nottingham lace manufacture was given by the Luddite riots, which for several years discouraged industry in the Midland and Northern counties, and an account of which I gave in my Huddersfield letter.

The next improvement on Heathcoat's machine was made by Lever. It is described as far more delicate and complex in construction, and suited to the production of fancy and ornamental work. Its movements are so rapid that no eye can follow its countless evolutions. Great skill is required in managing it, and a single machine is said to produce annually \$90,000 worth of goods. The fancy varieties of lace goods are constantly increasing, and several hundred varieties of nets and laces have been produced.

When steam and water power was first introduced in 1820 it had the effect of putting down the small frames worked in cottages, and the operatives flocked to the town. Large factories sprang up rapidly, and the sudden mania resulting from this change is thus graphically described:

Money began to pour into the town like a shower of gold, and the excitement and anticipation of the dazzling prospect opened before them raised the minds of the masters and operatives to the highest pitch of intoxication. In fact it was a regular mania, locally known as "the twist-net fever," and for nearly a twelvemonth prudence and caution were thrown to the winds. Enormous speculations were indulged in; mechanics who had never studied the working of a lace machine were engaged to construct frames of the most complicated character by eager speculators as ignorant as themselves; and the large wages offered and received were spent with a frightful prodigality. Companies were quickly formed and buildings erected, never to be used, for when in the following year, the consequences of this unnatural inflation took place and the bubble burst, the universal despair and consternation were very great. Thousands were plunged into the deepest poverty, many actually died of starvation; some left the country, and others went hopelessly insane or died by their own act.

It was some years before the lace trade recovered from the shock. In 1822 another period of distress occurred and frame-breaking was once more revived. The Reform riots and burning of Nottingham castle ended this season of want and misery. In 1835 the application of the Jacquard principle to lace-manufacture gave it a fresh start, and the progress and prosperity—with one or two lesser interruptions—has continued until the terrible crisis of 1876-78, caused partly by overstocking of the American market, partly by the depression in trade arising from a caprice in fashion. In this industry England has practically a monopoly, as the United States have not yet attempted lace-making by machinery. It is an industry that ought to be established in America as much as that of the manufacture of fine porcelain. But the same difficulty presents itself.

In Nottingham the fine Government School of Art affords every facility for the education of lace-designers for whom there are special classes. The effect of this wise provision has made itself felt in the wonderful improvement in the taste and execution of lace designs during the last few years. This branch of talent commands the very highest remuneration. The secrets of the trade are jealously guarded from other manufacturers, and it is not without some difficulty that one obtains admittance to the works.

The lace trade is almost exclusively confined to England, so far as factory work is concerned, there being 282 factories in the counties of Derby, Nottingham and Leicester. But a good deal of domestic work is carried on under various forms, principally pillow-lace, in those of Bucks, Oxford, Beds, and Devon, while Ireland furnishes guipure lace from Limerick. The number of persons employed in the factories is given as 10,164, but the total number of lace-workers of all kinds, nearly all women and children, is 49,370. I visited some of the largest establishments while in the city, and am indebted to the courtesy of Mr. Jasper Smith, the United States Consul, for accompanying me through the establishment of Thomas Adams & Co. The girls in this establish-

ment a very superior class of operatives, well dressed and seemingly well cared for. They have a handsome little chapel with stained glass windows connected with the factory, and every morning before beginning work a short service is read by the chaplain of the factory. The lace-workers are noticeably free from the stunted, half-fed appearance characteristic of operatives in other trades. The lace girls of Nottingham have still some claim to beauty. A great variety of public institutions for their health, instruction, comfort and amusement have been established.

In the evening I went to the theatre, procuring a seat in the shilling part of the house—the pit. In no English city have I seen such an orderly, well-dressed class of people. The girls came out in the finest “Dewsbury sealskin,” Gainsborough hats covered with subdued shades of “Bradford plush.” It was a gay scene. From there I visited the Talbot—a large and handsomely fitted up music hall frequented largely by the working classes, especially the girls. It was the finest establishment of the kind I have yet seen in England. A good deal of drinking was going on, but nothing offensive. Respectable girls in parties of two and three; and married women, some accompanied by their husbands, but others without escorts, sat down to friendly ale, or “a drop of cold gin,” and listened to the really excellent music. This is a picture of the condition of the operatives of an industry in which England has no competitors, in which she holds the market, in which low wages to crush out foreign rivals have not become a necessity. Is it surprising, then, that we read the following in the British prints from an American correspondent:

The lacemakers of Nottingham may congratulate themselves on the defeat of a well-planned attempt to establish a rival manufacture of their specialty in this country, by a large increase of the import duty on laces. There are no cotton laces made here, because the material costs more than the lace. It was sought to remove this impediment through the medium of the tariff. The attempt failed through the

opposition of Senator Morrill, who repeatedly declared that there were no cotton laces worth more than 25 cents a yard. I suppose that most of the Senators' wives could have told them that the most expensive laces are made entirely of cotton, and imitation laces are now made that are worth a dollar a yard. However, the Senator's assurance to the contrary carried the day, and no change of importance was made in the duty on laces.

This is the pleasant side of lace-making. The other has been sternly depicted by a recent English writer, who pictures Nottingham in times of bad trade, when, instead of working double hours, many factories stand silent and empty, and more have but a small number of machines working to fill the few orders which are eagerly sought for; when in place of the many groups of work-girls, in their bright dress, at the theatre and the Talbot, one sees anxious, serious faces, and the look of hopeless gloom settled on those who cannot find work. Then the cry is: "Heaven help us all; what shall we do if times don't mend?" But Nottingham to-day is gay, the spacious market-place at night is thronged, the brilliantly illuminated gin palaces glare without as the glasses clink within. Music issues forth from half a hundred concert-places chorussed with peals of laughter; money is being earned and spent. Let us hope the good times will continue. There are few more interesting places in England than the fine old town I have attempted to describe. Its narrow, winding hills only mounted by steps, the long zig-zag courts with butting gabled houses, all bespeak its antiquity. In the low quarters of the place filth, squalor and poverty abound more than in Bradford, Derby or Leicester. But for all this the beautiful meadows which surround the old town are already clothed in their wonted rich green, and are "converted into a seeming lake of violet crocuses." There indeed may the Nottingham lass find "a charm for the eye, and a charm for the ear in the songs of the birds that hang enchanted above the magic carpet. It is truly said that Nottingham is Flower Town, the English Florence,

for young and old go forth to collect and carry away the precious treasures of the fields, and all return laden with sweets to the town, joyous beneath their double burden and rich in the two-fold fragrance of youth and of flowers."

LXXIV.

LEICESTER—A FAMOUS TOWN.

This town, and the famous county in which it is located, have long boasted the broadest beans, the heaviest sheep, the largest horses and the longest staple of wool in England. The castle, abbey, gates, and some other ancient structures, still remain in the memory of Leicester people and in the guide book, though in fact they have nearly crumbled away, and the busy population of to-day devote most of their energy to the manufacture of hosiery and shoes. Leicester celebrities have been numerous, not, says one writer, to say numberless, from Lady Jane Grey to Little Miss Linwood, who worked her effigies in worsted-work that looked marvellously like what it really was, and made the good, old dames of her time half worship that Queen of the Needle. The heroes are said to date from the days of the Kingdom of Mercia, and Leicester is not sterile of such productions yet. Near Leicester is Bosworth Field and the road from Bosworth to the battlefield skirts Bosworth parish, and is very beautiful. Perhaps the fact that this battle closed the Wars of the Roses may account for the attraction and fascinations that Bosworth has over the other battles of the Roses. Volumes have been written about it and it is familiar to every American tourist.

The present city of Leicester strikes a stranger as a highly respectable town, not so large or so busy as Nottingham, but in some respects not unlike Derby. It is clean, well-paved, and has several rather fine public buildings and

substantial business blocks, and in the residence portion of the city some handsome villas. It is the sort of place to locate charitable institutions in, and buildings having a half-hospital appearance loom up in different parts of the town. While it has not the busy appearance of some factory towns, it certainly has not the amount of filth, the poverty, the dark alleys, the array of gin-shops and the amount of drunkenness. Some of the streets remind one of ancient, gray-walled York, but nothing so antiquated as Stone Gate. Leicester is the center of the hosiery trade, and if any one cares to look at a map he will find it is also the center of England itself, though the Leicester people do not seem so proud of the fact as their Worcester cousins across the Atlantic, who constantly speak of Worcester as the center of the Commonwealth of Massachusetts. The present population of Leicester is about 125,000, and the increase during the last decade has been about 28,000.

The most trustworthy authority gives the honor of founding the hosiery trade to the Rev. William Lee, of Calverton, in Nottinghamshire, who flourished about the time of Queen Elizabeth. Hand-knitting with wood or steel needles had only been introduced about thirty years, and prior to that time our ancestors' hose had been cut out by the scissors from cloth of wool or silk and sewed up to the size and shape of the leg. According to the story, Lee was less anxious to furnish the world with better stockings than he was to obtain the affections of a young lady who, whenever he called, seemed more absorbed in her knitting than in the words of her lover. His aim was to make hand-knitting a gainless employment. He succeeded, and the first stocking frame produced hose at least seven times as fast as the most adroit fingers could knit them. The machine was exhibited to Queen Elizabeth, but she was mortified to find that it produced nothing but coarse woolen stockings; had they been silk, the said, she would have forwarded the invention, but coarse woolen—oh, no! and the good Queen elevated her royal blue nose and strode majestically from Lee's

garret. Then Lee went to work, and at last made the Queen a pair of silk hose, which she accepted, but did nothing for the ingenious maker. After Elizabeth's death Lee felt quite sure of the patronage of the Highland King, for James had borrowed a pair of silk stockings at Edinburgh, of the Earl of Mar, that he might not appear at the English Court as a "scrub before strangers." But Lee soon learned not to put his trust in kings and princes, and having received an invitation, he packed up his machine and went to France, where he carried on his industry, as one writer says, "with great applause." But with the assassination of Henry IV. his prospects were once more blighted, and being suspected on account of his Protestantism, he fell into poverty and a deeper gloom, and sunk broken-hearted into the grave in the year 1610. Fortunately his brother James understood the business, and he brought the machine back and started the London Hosiery Manufacture, and from that time frames began to multiply in Nottingham, Leicester and Derby, until there are now in Great Britain a large number of hosiery factories employing many thousands of hands, besides those employed in the rural districts on the hand machines, and the thousands of women and children employed in the country places surrounding Nottingham and Leicester, and in the cities as menders, seamers, winders, cutters, finishers and makers-up. Some authorities give the total number, as far back as 1866, as 150,000. But I think this is all guess-work, for Bevan's Statistical Atlas, published last year, puts the factory hands down as numbering 15,000, and those engaged as workers at hosiery in England at about 40,000. With existing data I can give nothing definite as to the numerical importance of this industry at the present time.

The history of the trade to which Leicester owes its prosperity is one of the most melancholy chapters in the Industrial History of England, and although Parliamentary interference has ameliorated the sufferings of the workers by the abolition of "frame rents," the outlook of the trade,

to-day, owing to various causes, to use the language of a representative working hosier, is "gloomy indeed" for the work people. One of the leading causes of the depression among the frame-work knitters is the disproportion existing between the supply of their labor and the demand for it. "The knitter of the future," said Mr. Rowley, president of the Board of Arbitration and Conciliation of the Hosiery Trade, "will be the man who can manage and watch intricate machinery, as in a cotton or woolen factory, and not the man dexterous as a frame-work knitter."

Before the trade began to crystallize into the factory system the trade of framework-knitting was accessible to the unemployed laborers of all other classes, from the facility with which a knowledge of the trade could be acquired, especially in the common branches. This also admitted the competition of women and children, all tending to reduce wages, and now that power machinery, factories and town operatives, are, to some extent, taking the place of the hand-frame, the cottage and the rural workers, there are large numbers thrown out of work who must obtain employment at something else, emigrate or go to that bourne which is the birthright of every Englishman—the workhouse.

The heaviest grievance under which the Leicester stocking-weaver suffered for half a century or more was the outrageous system of "frame rents," which was finally abolished in 1873 by much-despised "legislative interference," since which time the lot of the framework knitter has been a little more bearable. The rent varied from 1s. (24 cents) to 3s. (72 cents) per week on frames that could be bought second-hand at from £4 to £12 (\$20 to \$60), and the full week's rent was charged when only half-employed. This system ground the poor stocking-weaver to dust, and when the "rents" and "charges" were deducted the week's earnings had melted away. Actual instances are known where the frame rent, stitching, winding, standing and taking in, needles, candles and coal came to 8s. 7d., and the total pay to £1, leaving a balance for the weaver of only

11s. 5d. for his week's work. As a result of this terrible system frames were multiplied merely to produce rents. The operatives were on the verge of starvation several times, and the report of a Royal commissioner appointed to look into their condition, brought to light the most terrible sufferings. At last some of the more humane employers determined to abolish the the rent system, and all contracts with the employees were made free from rents. But the great bulk refused to follow until compelled in 1873 by act of Parliament.

LXXV.

LEICESTER—THE NEUTRAL MR. HAXBY.

I have before me the price lists agreed to on the abolition of "loom-rents" and now in vogue, showing the prices for making knit, middle, and fine gauge hose and half-hose. In this arrangement, though rents are abolished, if the employer provides machinery he deducts 1s. 4d. (32 cents) in the £1 in lieu of frame rent. For work on the steam rotary frames net prices are given and the employer provides winding, fire, light and needles. Then there is a third price list called "the 17½ per cent statement of net prices of middle and find gauge hose and half-hose," all signed "on behalf of the trade" by T. P. Bailey. These documents are each formidable and give the prices paid in great detail, but it is very difficult to ascertain how much the operatives earn. I called on Mr. Bailey, who is supposed to represent the workmen on the Board of Arbitration, but who strikes one as a very deep old gentleman, with one eye open for the employer. He was one of those men who talked a good deal but said very little. He admitted the prospect for the work people was very gloomy. The Union was helping the men to emigrate to America and New-Zealand; those going

to America were allowed £3 and those to New-Zealand £6. Only a few had gone. Others talked of going. I was afterward told by other gentlemen that large numbers from Leicester were going to the states, but these had nothing to do with the Union. Mr. Bailey said that the hand-frame knitters were still by far the most numerous class of operatives in the industry, and the average weekly wages of hand-frame knitters (piece work) according to Jasper Smith. Consul at Nottingham (see page 78, State Department Report No. 23), varies from \$3.41 to \$4.14. Thus more than one-half of the men employed in this industry receive each but \$4 a week. From inquiry, I think Mr. Smith's estimate trustworthy. Women employed in the factories can earn in this business about as follows :

	Weekly wages.
Hand stitchers and seamers, piece.....	\$1 95
Power stitchers and seamers, piece.....	\$2 92 to 3 65
Power willers and framers off, piece.....	3 65 to 4 86
Power winders, both time and piece.....	2 68 to 3 16
Cutters, time.....	3 65
Menders factory, piece.....	2 92 to 3 90
Folders, warehouse, piece.....	3 40 to 4 15
Folders, warehouse, time.....	2 70 to 2 92
Menders, warehouse, piece.....	2 92 to 3 65
Menders, warehouse, time.....	2 92
Makers up by hand.....	2 43 to 3 40
Makers up by power.....	3 65 to 4 15

Rotary power frame knitters can earn in England by the piece from \$8.50 to \$9.73. In the United States their average weekly earnings were, in 1881, \$17.86. Knitters in the United States earn \$8.94, more than double that of the ordinary hand here. In this branch of industry it is almost impossible to obtain information. Not long ago the State Department wrote to the Consular Agent at Nottingham for a few samples of hosiery with the wholesale prices. He could not obtain them, and even such a firm as I. & R. Morley refused to give the representative of the United States a few

samples of hosiery "unless the Government of the United States made a formal request of the British Government that samples be furnished." This is the undignified way in which America's representatives are treated, and yet the official figures show that from this same Consular District in the last five years nearly \$33,000,000 worth of goods have been bought and paid for by citizens of the United States—and when the State Department asks for a few samples of goods they are refused. And yet the same manufacturers, as I shall show further along, say it is a shame that Americans cannot share their wealth with them, and complain about the tariff.

In a report made May 25, 1882, the United States representative at Nottingham frankly acknowledges that he can obtain no information on the subjects called for by the Department. I called on the gentleman that represents the United States at Leicester, and to show what an utterly hopeless task it would be to obtain information from him, I shall give the interview in full.

Mr. Joseph B. Haxby is an attorney, and he is the Consular Agent of the United States at Leicester. When I was ushered into the presence of Mr. Haxby he at once impressed me with the fact that he was one of the fairest of men, and that his position was one of an arbiter between two great nations. Indeed, had Mr. Haxby not been masculine and florid and stout and British, one might have mistaken him for blindfolded Justice herself, so exalted were his ideas about giving information.

"I am here, sir," said Mr. Haxby, "to certify invoices. This I have done for years and never had a complaint from either Government. In this matter I represent two great Governments, and I must be absolutely neutral. I never ask questions; I never answer questions. Our people here would not allow any interference. That is, I could not tell you anything about labor or wages or the condition of the people. Indeed I know absolutely nothing, in my neutral position, about the condition of the work-people." And

here the heart of the neutral Mr. Haxby relaxed, and he jerked out : "I *do* know that the manufacturers squeeze the poor d—ls of operatives all they dare ; I *do* know that. But of course in my neutral position I could not give an opinion ; they would soon draw my teeth for me here, should I do so. Our people here don't like opinions, and if you want information I could not in my neutral position go round with you, because you see the manufacturers might wonder what you wanted, and I don't think they would give you much information."

I assured Mr. Haxby that I had no intention of troubling him ; that I had already interviewed Mr. Rowley, representing the manufacturers ; Mr. Bailey, representing the workingmen ; Mr. Waddington, Mr. Kemp, and a number of other gentlemen, and that I merely called to pay my respects to him as representing the United States Government at Leicester, before I could congratulate him on the facility with which he represented the British Government at the same time, he resumed :

"Ah, yes ; very kind, but there is my friend Mr. Lorrimer, of Pool, Lorrimer & Tabberer ; he is just full of this question. Free trade arguments ooze from Mr. Lorrimer like gum from a spruce tree. Why, bless me, didn't they enlarge their factory because their New York agents had said a Democratic Congress had been elected and the tariff would come down? But now it turns out that the tariff on their class of goods (woolen hosiery) has gone up, and they say there is no dependence to be placed upon you Yankees anyhow ; and Pool, Lorrimer & Tabberer think that you are all wrong ; but I think you are a deuced clever lot of dogs after all, and you look out for No. 1 ;" and then Mr. Haxby laughed a good hearty British guffaw.

At this moment an aggressive gentleman with wiry hair, brown, healthy-looking face and pepper-and-salt suit entered and proved to be the veritable Mr. Lorrimer. His line was woolen hosiery—his grievance was a simple one ; his logic pure Huddersfield. The newspaper cables and his agents

had led him to believe the tariff on his goods was coming down, instead of which, after his preparing for a great increase in trade, it had gone up; and that little which Pool, Lorrimer and Tabberer did have is now taken from them. True, his American agents now said: "Keep your powder dry, the next congress will be democratic and a bona fide reduction of from 25 to 50 per cent is promised beyond a peradventure," but Mr. Lorrimer and the firm of Pool, Lorrimer & Tabberer were in no frame of mind to regard with much favor what agents said, and so disgusted had they become with the whole policy of the United States, with its compound duties, with its promised decrease and actual increase, with one thing and another, that his firm was more than half inclined to let the United States go altogether.

"The fact is," said Mr. Lorrimer, emphatically, "it don't pay to bother with it. We can make goods cheaper than you can, and give us half a chance and we will beat you out of your home markets; but I do say that you don't give us half a chance. You are the richest country on earth, and why can't you give us a chance to share your wealth?"

Though factories are being built and the hosiery trade is being concentrated in two or three large cities, the greater part of the hosiery of some of the largest firms is made by hand-power, and the workers employed in villages for twenty miles round Leicester and Nottingham. The work thus made is collected sometimes by the direct agents of the mills, but oftener by what may be called middle men, who receive a percentage for giving out the work to the workers and returning it to the mills. Perhaps no industry in the kingdom is so scattered, so far as the operatives are concerned, and hence the difficulty of giving the actual condition in which they live and the average wages they earn. Female labor being much cheaper in Leicester than in Nottingham (owing to the lace industry in the latter town), many of the hosiery firms of Nottingham have their work done in Leicestershire. As I have shown, the Union and the manufacturers have agreed on a price list, and a Board of

Arbitration consisting of nine manufactures and nine workmen are supposed to settle disputes. How far this list is regarded I am unable to say, though the fact of copies being given for publication, when compared with the close manner in which all real useful information is kept from the public, even to a refusal of samples, would indicate that possessors of the price list are in the same advanced state of wisdom as to the real prices paid, and the real wages earned, as their less fortunate brethren who have them not.

I have, however, obtained what I regard as a satisfactory statement from the manufacturers of Leicester, and I here-with append it, with the rates paid in Massachusetts:

DESCRIPTION OF OCCUPATION.	Rate of Wages per Week in England.	Rate of Wages per Week in U. S.	Excess of Wages in U. S. over England.
Plain woolen and cotton hosiery, wide frames (hand), men.....	\$5 76	\$8 94	\$3 18
Rotary frames (power), men.....	7 25	17 86	10 61
Circular frames (power), women..	3 84	7 00	2 16
Winding-machines (power), girls..	1 56	5 53	Not fair comparison
Winding-machines (hand), girls...	2 00	...	...
Sewing-machines (power), women.	3 00	6 49	3 49
Seamers (women).....	1 50	...	...
Menders (women).....	3 36	5 00	1 64
Makers-up (women).....	3 60	5 76	2 16
Dyers (foremen).....	9 60	21 60	11 90
“ (laborers).....	3 50	8 00	4 50
Yard hands.....	4 50	8 00	3 50
Engineer.....	7 50	17 14	9 64

The above table is made up from returns sent into the commercial department of the Board of Trade, London, by the manufacturers of Leicester; and the United States from Table 1, page 423. Thirteenth Annual Report of Bureau of Statistics of Massachusetts. Both may be regarded as good authority. It will be seen from this that in some cases Massachusetts manufacturers pay 100 per cent more wages

to hosiery operatives than the manufacturers of Leicester and neighborhood, and that menders in England earn but 6s. or \$1.50 a week—a lowness of wages unheard of in the United States. And yet it is a well-known fact that the lower grades of cotton and woolen hosiery sell at retail in the United States as cheaply as they do in England; while the lower grades of cotton and mixed underwear are fully as cheap in the States as they are in England.

LXXVI.

WOLVERHAMPTON—AN IRRITABLE SOLICITOR.

I OFTEN smile at the recollection of my first visit to the capital of the Black Country. I was accompanied by Henry W. Oliver, Jr., one of my colleagues on the tariff commission, and we were investigating the Clap-Griffith's process for the manufacture of steel, which he and Mr. James P. Witherow have since established so successfully in the United States. We were armed with cards of introduction from the United States Vice-Consul at Birmingham to the United States Consular Agent at Wolverhampton. Driving up from the station in an ancient-looking and musty-smelling-vehicle, called a "fly," we asked for the agent, and found he was an English country solicitor. Presenting our credentials, we were ushered into the presence of the representative of the United States at Wolverhampton. Mr. Nerve (I think that was his name) was one of those puffy, say-nothing-to-me-or-I'll-contradict-you sort of men. He had a snub nose, and a little yellow hair, timidously creeping down each side of his face, which would have constituted mutton-chop whiskers had there been enough of it. He evidently felt the mighty dignity of representing the Republic, and therefore remained seated while Mr. Oliver

and myself timidly approached. He did not ask us to sit down, but in a brusque way said:

“What have you come here for?”

“Partly out of curiosity, partly for pleasure, and perhaps incidentally to attend to a little business,” calmly responded Mr. Oliver.

“Well, there’s nothing to see,” said the little snub-nosed solicitor with the timorous yellow whiskers, and then, as an afterthought, he jerked out, “There’s an old church.”

“Very old?” said Mr. Oliver.

“Yes, quite old,” responded the solicitor, somewhat irritated.

“Founded by a Saxon princess, I believe, before the Conquest,” said Mr. Oliver. “My friend here is very fond of guide-books, and I learned this from one he bought this morning.”

“Indeed,” said the country solicitor.

“Yes, he is; guide-books,” repeated Mr. Oliver.

We were still standing before the consular agent, who had, we presume, read our credentials. We each, without being asked, took a chair, dragged it toward the desk of the mighty man, and sat down.

“Well, what do you want?” he said abruptly.

Whereupon Mr. Oliver asked him for the address of a well-known firm of Wolverhampton, hundreds of whose invoices we feel morally sure he must have had on file in his office.

“I don’t know,” he replied; “I’m not expected to know the street and number of everybody who comes here to certify to invoices. I am paid half a crown per invoice certified—little enough—and that is all I know about it.”

After a few more remarks about as prolific of results as the foregoing, we arose and said:

“Good-day.”

To which, however, there was no response from the Wolverhampton lawyer, and we left him to his own reflections. By the way, speaking of Wolverhampton lawyers reminds

one that it was one of this specie, named Haines, who led on a Wolverhampton mob in the middle of the last century when the excitement against Wesleyanism was so great. The followers of this solicitor marched through the town, singing:

“Mr. Wesley’s come to town
To try to pull the churches down.”

After which they proceeded to the Wesleyan Meeting House and destroyed it.

Our consular agent undoubtedly spoke the truth when he said there was nothing to see at Wolverhampton, though he need not have served it on ice. Narrow streets and small red-brick houses, slovenly women, standing in the doorways, and dirty children sprawling in the gutters. Black mud in the wet weather, and black dust in dry weather, are perhaps the most noticeable features of the place. Wolverhampton is the capital of the Black Country. On all sides rolling-mills, steel-plants, wire-works, plate-mills, blast-furnaces, and miscellaneous factories for making all kinds of metal ware. In olden times the wool trade flourished here, but that has long since departed. The town has been famous for its locks, and two centuries or more ago turned out curious lock-work. It may now be regarded as the center of this trade. Chubb, Hunter and Price are among the well-known names, and the factors of Wolverhampton also purchase the bulk of the locks made in the surrounding towns. The manufacture of japanned ware was first begun in England at Wolverhampton, and soon developed into an industry of importance. Watch-chains of steel were made here worth \$100 each, and buckles from \$50 to \$75 a pair. A sword hilt of steel has been made in this town and sold for \$1,500 to a nobleman, the workman making it working steadily on it for three years. Galvanized goods, iron tubes edge-tools, hurdles and all sorts of manufacturers of brass are carried on here.

Whatever else may be said of the discomforts of Wolver-

hampton, no one can complain of the hotel. King Charles I. went down there in 1645 to rally the Royalists of Wolverhampton, and stayed, it is said, at the same hotel, The Star and Garter. It is none the worse, however, for that. The cooking is equal to any hotel in England. The building itself is a fine specimen of Tudor architecture. Here, in spite of dust, slush, smoke, the noise of machinery, and the incivility of the consular agent, one can enjoy the good things of this life.

The present visit to Wolverhampton was made in company with a prominent Birmingham editor, and in response to a special request from several correspondents at home to inquire about the "basic process" of making steel on the Thomas-Gilchrist process. We found the basic steel mills about two miles from Wolverhampton, and when through the rain and slush we had finally reached them, discovered they were in no condition for visitors. The plant had been pretty nearly demolished by the bursting of some boilers and would not be at work again for nearly three months. However, Mr. Percy C. Gilchrist was there (his colleague, Mr. Sidney G. Thomas, having recently died) and was exceedingly kind in imparting the desired information.

Both of the inventors of this process were young men, Mr. Thomas being thirty-four at the time of his death, and Mr. Gilchrist, judging from his appearance, not much, if any, over thirty. He has a striking head and face, a well developed brain, and is evidently a man of ability and indomitable perseverance. When Mr. Thomas commenced his experiments his friend, Mr. Gilchrist, was a metallurgical chemist in South Wales. These experiments were designed to eliminate phosphorus in the Bessemer converter, and were begun, Mr. Gilchrist told me, in 1875. The results were highly encouraging, though not entirely conclusive as to the commercially complete purification being possible, owing to the imperfect character of the appliances at command. Two years later, with a lining composed of limestone and silicate of soda, much better results were arrived at, and with these

results apparatus to carry the experiments further were constructed.

Having demonstrated the practicability of getting rid of the enemy that had more or less baffled the ingenuity and resources of all the rest of the world up to that time, Mr. Thomas, in 1878, communicated his discovery to the Iron and Steel Institute of England in a paper giving fully the results of these experiments, with analysis. Mr. Thomas was present and modestly stated that he had succeeded in removing the phosphorus entirely by the Bessemer converter. The statement of this unknown youth was sneered at. How could he solve a problem which the leaders of metallurgy had pronounced well nigh impossible. So little importance was attached to his statement, and so little was it believed in, that the paper was scarcely noticed and was left unread till the spring meeting in London in 1879.

At last Mr. E. Windsor Richards, manager of Bolckow. Vaughn & Co., of Middlesborough, became interested in the process. He had met the young inventor at Creusct, in France, and later in Paris, and was struck with his definition of the discovery. The principle thus stated has been found incapable of a more exact definition.

“It is,” said Mr. Thomas, “on the production of a basic earthy slag by the addition of large quantities of calcareous basis, and without excessive waste of lining and metal, and the construction of a durable basic lining that we venture to think the economic solution of the phosphorus problem depends.” When in Middlesborough I had the pleasure of meeting Mr. Richards, and I reproduce now his own words at that time in speaking of the part he took in the introduction of this process, that is likely to revolutionize the steel trade.

“We very quickly erected a pair of thirty-cwt. converters at Middlesborough, but were unable for a long time to try the process, owing to the difficulties experienced in making basic bricks for lining the converters and making the basic bottom. The difficulties arose principally from the enor-

mous shrinkage of the magnetism limestone when being burnt in the kiln with an up draught and of the failure of the ordinary bricks of the kiln to withstand the very high temperature necessary for efficient burning. The difficulties were one by one surmounted, and at last we lined up the converters with basic bricks, and April 4, 1879, made two successful operations."

"What was the result?"

"The news of this success," said Mr. Richards, with a smile of satisfaction, "spread rapidly far and wide, and Middlesborough was soon besieged by the combined forces of Belgium, France, Russia, Austria, and the United States. A few hundred-weights of samples of basic bricks, molton metal used and steel produced, were taken away for searching analysis at home."

In 1878, the production of first-class steel from phosphoric ores was *nil*; in 1884, by means of the Thomas-Gilchrist process, 864,000 tons of steel were made in Europe, every country being enabled by it to convert its own impure ores into steel.

LXXVII.

INTERVIEW WITH PERCY GILCHRIST.

"It was early realized," said Mr. Gilchrist, "by my cousin, Mr. Thomas, that as the supply of pure ore in the world is limited, and the demand for steel an ever growing and widening one, it could only be met by adding the unlimited phosphoric ores to our sources of steel."

"It will enable, then, each country to utilize its own ores."

"As you say, the effect of the process will be to make each country able to make steel from its own ores. For example, if they be non-phosphoric, by the acid process; if phosphoric, by the basic; the one process will not oust the other; it will merely help to find material to meet the annual increase in steel consumption."

The practical effect of the basic invention in England is to make available 15,000,000 tons of ore heretofore useless for steel-making. In England, the only districts supplying good Bessemer ores in any quantity are those of West Cumberland and Northwest Lancashire, which have never in any one year produced more than 3,000,000 out of a total output of 18,000,000 tons for the kingdom. It was equally—nay even more—important to Germany and some other countries heretofore dependent on foreign and short-lived supplies of raw material for their steel.

By the ordinary Bessemer process it is impossible to make good steel from phosphoric pig, as no phosphorus is removed by this process; and, as also good steel must practically contain no phosphorus, the most important part of the basic process is the lining of the converter. But, as Mr. Gilchrist said to me, "Curiously enough, although it is so absolutely essential to have it, its action on each charge of phosphoric pig is purely permissive, as it allows the lime added with each charge to remain unacted upon by the lining, and enables it to devote its energies to absorbing the phosphoric acid that is produced by blowing air through phosphoric pig under such conditions."

The whole process as carried on at the South Staffordshire Works under the direction of Mr. Gilchrist was explained to me by that gentleman himself, and as far as I could judge the secret of success very largely lies in the basic lining. At these works they make use of specially prepared dolomitic lime; a lime is thus made that resists the atmosphere, so that it will not fall to powder during a space of three months, enabling a stock of it to be kept. They are also enabled to make it from a material sufficiently hard for a durable lining. I saw this lime in process of making in the sheds.

"We call this," said Mr. Gilchrist, taking up a sample and handing it to me, "shrunk lime, because it is totally different to what we generally know as lime, and, because in its conversion from dolomitic limestone into its present form it has lost 50 per cent both in volume and height."

“How is it made?”

“It is made in three ways: 1. The dolomitic limestone is ground up and made into roughly shaped bricks; these are fired in kilns having a basic bottom, with a down draught and coal fired. 2. The dolomitic limestone in blocks as they come from the quarry are placed in kilns with a down draught and gas fired; this is the Creusot and German method. 3. The dolomitic limestone, as it comes from the quarry, or roughly broken, is charged into a basic-lined cupola much in the same way as you charge pig iron into an acid or ordinary cupola. The shrunk material is taken from the cupola through rakingout doors at the bottoms every two hours, the coke used being thirteen to sixteen hundred weight per ton of shrunk material made.”

“How is this shrunk material mixed?”

“However it is made it is ground up and mixed, not with water, but with hot boiled tar, sufficient being used to make the matter run solid under a red-hot rammer, or sufficient to make slurry, if the latter be required.”

“How are the converters lined?”

“There are four ways,” said Mr. Gilchrist; “1. Simply ramming round a wooden or iron core, and drying the lining with a coke fire after the core has been removed. 2. With the original basic bricks, using ground-up waste bricks, mixed with tar, for the joints. 3. With coked basic bricks. 4. With slurry. This is for relining a worn-out converter.”

“Which is the best method?”

“All of the above methods are good and have their partisans.”

“Having got your vessel ready for work, what next?”

“Into the converter the necessary amount of lime is shot; the amount depends upon the amount of phosphorus and silicon in the pig, and is left to the judgment of the blower. As soon as the lime is hot the charge of phosphoric pig is run into the converter. At first what silicon there is in the pig (and there is very much less than in ordinary Bessemer pig) passes away, by the action of the blast, into slag; then

carbon burns with a large and luminous flame, occupying some ten minutes; during this time manganese is also being formed into slag, but our friend phosphorus, up to the end of the carbon period, has only been slightly attacked; directly, however, the carbon has all gone the phosphorus begins to pass into the slag, and in so passing produces great heat, sufficient heat to destroy itself, as the heat it produces is sufficient to keep the first product, namely, burnt wrought iron, as liquid as water."

"How do you know when all the phosphorus is removed?"

"The blower, after a certain number of seconds of after-blow (after-blow is that part of the operation after the carbon has all gone, and is characteristic of the process) takes a sample, and, after having hammered it out in its heat into a flat disc, whilst still red-hot plunges it into cold water, and at once either breaks or bends it. From the appearance of the fracture it requires only common sense and experience to ascertain whether the phosphorous has been practically removed."

Mr. Gilchrist showed me a beautifully wrought casket which had been presented to Mr. Thomas by Austrian manufacturers, made out of basic steel. It looked almost like bronze work, and forcibly illustrated what can be done with the basic process in the direction of soft steel. The Staffordshire works will utilize furnace cinder as a raw material. The story of this new industry and its growth throughout Europe in five years, is more like a romance than the plain statement of facts, though one can not relate it without feeling a tinge of sorrow that the young government official, with no metallurgical training or experience, and not time to devote to scientific research save the evenings after the day's work was over, who made this remarkable discovery, should have been cut off without realizing the reward of his careful reasoning, indomitable energy, and perseverance.

LXXVIII.

YORK.—GRAY-WALLED AND ANCIENT.

NEXT to the tariff the inter State commerce question will take precedence of all others in the Forty-ninth Congress. The defeat of the Reagan bill in the Senate, the passage of the Cullom bill, and the subsequent appointment, on motion of Senator Cullom, by the Senate of a special committee to sit during their recess to take testimony and make a thorough inquiry into this question, indicates beyond a doubt that our more conservative legislators are determined to obtain exact information on this most complicated subject before taking the first step toward the control of inter-State commerce by the National Government. One cannot aspire to throw much light on this complicated question in one or two letters written as it were "on the wing" and with hardly a reference book at hand, written, too, in gray-walled ancient York, inside the walls of which city one is not likely to lay up much inspiration for the living issues of the day, though outside its walls he will certainly find one of the finest, if not the finest, railway station in the world. There are memories, and romance, and poetry enough clustering around this old town for a letter, but I fancy it had better be left for others, for more picturesque and poetic pens than mine. Not that I by any means admit there is no poetry in these living issues of the day, for has not the poet sang of railroads:

"No poetry in railroads; foolish thought
Of a dull brain, to no fine music wrought;
By mammon dazzled; though the people prize
The gold untold; yet shall not we despise
The triumphs of our time, or fail to see
Of pregnant mind, the fruitful progeny
Ushering the daylight of the world's new morn."

Common and familiar instruments of our business and pleasure as they have become to us, railways may be described with liberal truth as the most striking manifestation of the power of man over the material order of the universe. The mightiest monuments of classical or pre-classical times, it has been truly said, are but feeble triumphs of human skill beside the work of the railway engineer, who has covered the face of the earth with iron roads, spanning valleys and piercing mountains, and traversed by fiery steeds fleeter than ever sped through poetic dream or necromantic legend. It may likewise be said of the history of railroads both in England and our own country that it is a history in which consummate commercial sagacity and far-seeing policy are found side by side with reckless waste and popular madness, in which the genius, the resources, the virtues of human nature, in an almost heroic degree are in the closest juxtaposition with the lowest depths of folly, futility, and fraud. No chapter in the world's progress is more fascinating, more wonderful:

“Link town to town; and in these iron bands
Unite the strange and oft-embattled lands.”

During my stay in England this time I have met and conversed with many of the best informed and most distinguished railroad experts in the kingdom, and, indeed, it was an invitation to meet and dine with the directors of the Northeastern Railway Company that brought me to this city, and subsequently suggested the idea of devoting this letter to a subject which is second only to that of the tariff in the amount of public interest it commands in the United States.

LXXIX.

YORK.—THE RAILROAD QUESTION.

The various ways governments have sought to secure for the people the fulfillment of corporate obligations and the correction of corporate abuses have been classified as follows:

(A) The policy of non-interference; (b) specific and penal legislation; (c) delegation of the rate-fixing power to commissioners; (d) the continental system of direct state control through the executive; (e) competitive, partial state ownership; (f) investigation through a Board of Railroad Commissioners, and the enforcement of its conclusions and recommendations through enlightened public opinion.

I have in a previous article (published in the *Philadelphia Press* of Dec. 23, 1884) endeavored to trace the causes, character and effect of the attempts at State control, in each of these directions, as may be gathered from the experiences of twenty-nine of the States of the Union, which in one form or another have established railroad commissions and have tried to solve the railroad problem for themselves. Excepting only the continental system, each of the six methods has been tried by some State or States within the Union, and a careful study of the relative amount of success attending each method will aid in solving the problem of the character of the National control, for a large majority in both houses of Congress favor legislation of some sort. The success of penal and other severe methods of dealing with railroads has not in my opinion been beneficial enough to warrant the National Government in proceeding in this direction. The delegation of rate-fixing power to commissions has proved an improvement upon specific and penal methods, but thorough investigation and enforcement of recommendations through enlightened public opinion, it

must be admitted, has accomplished, much good for the people.

The Senate Committee on Transportation Routes to the Sea-board has already laid the foundation for the most thorough inquiry into this question ever prosecuted. It is greatly to be hoped that this committee will not be contented with taking two or three volumes of testimony without making a careful examination of all the railroad literature, in shape of reports, now extant, and without having some definite line of statistical work mapped out.

There is to-day going on in England a struggle between these powerful railroad monopolies and the public second only to the one which occupied so much time of the last session of Congress in our own country, and bids fair to occupy still more time in the next. England started with the railroad question very much as we did by supposing that the interest of the companies was to a considerable extent the interest of the public, and that competition would eventually regulate this business of transportation, so that the public could secure the best possible service for the least cost. The best minds of the country, including Mr. Gladstone himself (who was for years chairman of the secret committee appointed as far back as 1844, and which made no less than five reports on the subject), and finally came to the conclusion that regulation was to be depended on rather than competition. The outcome of this report was the passage of a somewhat crude law relating to rates and fares, and empowering the State after a certain time to buy any railway. A board was created at this time subordinate to the Board of Trade of the United Kingdom. It accomplished but little and was abolished.

In 1846 the railroad question again came up in England, and another special committee was appointed to take testimony and report. The outcome of this was the railway commission of that year, appointed to have supervision of railways and canals, with full power to enforce such regulations as may from time to time appear indispensable for

the accommodation and general interest of the public. The President of this commission was paid \$10,000, and the two other paid members each \$7,500 per annum. The next year the railroad companies consolidated and formed what is known as the "Railway Clearing House," something similar to our Trunk Line Commission, excepting that in 1850 the English association was legalized, whereas our own commission never has had legal existence nor legal power to enforce its decision or agreements between companies comprising the association.

The Railway Commission enjoyed but a short existence and was abolished in 1851, the duties being transferred to the Board of Trade. In 1854 the canal and railway traffic act passed, which compelled every company to afford to the public, in respect both of goods and of passengers, the full advantage of convenient interchange from one system of railway to another; and, second, that every company should make equal charges under the same circumstances. No special tribunal was appointed to hear cases that might arise from infraction of this law and the injured party could only appeal to the Court of Common Pleas.

Next came the famous commission with the Duke of Devonshire as Chairman. They decided that it was not expedient for the government to avail itself of its reserved right to purchase railways. That Parliament should not interfere with the incorporation and financial affairs of railway companies, but limit its own action to regulating the construction of the line and the relations between the public and companies leaving the financial affairs to the "Joint Stock Companies' Act," under which the companies were created; that railway companies should be compelled to run at least two trains a day for third-class passengers, and that legislation abolishing the freedom which railway companies enjoy of charging what sum they deem expedient within their maximum rates was inexpedient even if it were practical.

In 1872 the Marquis of Salisbury and some other eminent

Peers and Commoners made an attempt to solve the railroad problem. This committee, like the ones that preceded it, dealt freely enough with glittering generalities, but was sparing enough when it came to definite propositions. It decided among other things that equal mileage rates are inexpedient. That there should be publicity of rates and tolls, and that there was need of a new tribunal, consisting of three railway and canal commissioners, for a careful and through supervision of the transportation interests of the kingdom, with authority to enforce the laws relating to those matters, to hear complaints and settle disputes, and with further duty of assisting and advising Parliament in railway legislation.

In 1873 the so-called "Regulation of Railways Act" was passed and another commission appointed consisting of three persons, one of whose members must be a person of experience in railway management, and another experienced in law. The object of this court was to counteract the effect, of the monopoly acquired by railway companies. This commission has undoubted power, and exercises it in all matters relating to the construction of the road, especially with regard to matters of public safety. It goes further than some of our New England commissions in this direction, and deals with the right of this or that town to necessary accommodations, better waiting-rooms, platforms, and covered spaces. They have also the power of arbitrating both between different companies and between the companies and the public; the complaints of one trader as to preferential rates or superior facilities accorded to another; the demand of one company for running powers over the lines of another; these are the kind of cases in which the intervention of the commission is invoked.

What strikes me with amazement is the little business this commission does. So far as salary is voucher for respectability or talents these gentlemen ought to stand high, for each of them is paid \$15,000 a year. They issue annually a report of their decisions. I have before me the seventh re-

port of this railway commission, which contains nine judgments delivered during the year, these judgments are made up of local complaints of insufficient convenience afforded by railways, the grievances of manufactory firms against railways, and disputes between railways themselves. I was even told by one of England's most eminent railway men, whose name is well known in the United States were I at liberty to mention it, that there is but little confidence felt in the present commission; that they have done nothing in the way of business, and although they advertise for business in the *Railway Times*, judging from the reports, they get very little.

These advertisements, one of which I have seen, are decidedly novel, and are like a court of justice tooting for business. In the preamble it states that whereas by the act of 1873 this and that are illegal acts, and calls upon any one who may know of railway companies transgressing these laws to at once inform the "commission at their chambers and the commission will forthwith make due inquiry into the matter represented to them."

Judging from the calm-looking, fifty-paged, blue-covered folio annually issued by these highly respectable and well-paid old gentlemen at a cost of about \$50,000 per annum to the tax-payers, one would think that the railroad question had not only been solved, but serenely laid upon the shelf in England as one of the questions a generation now rapidly passing to the grave had fought over and settled.

Far from it. The railroad question is as much of a living issue in England at the present moment as it is in the United States. Sir Robert Peel, Mr. Gladstone, Lord Cardwell, the Duke of Devonshire, and Lord Salisbury have all in their time taken a hand in it and established some principles, but the railroad interests are getting too powerful for the States, as I think was clearly shown in the last select committee appointed to inquire into the railway rates and fares and the working of the act under which the present commission was appointed. The ink of the three ponderous

volumes of this report, which was only compiled in 1882, is hardly dry, yet Mr. Chamberlain talks of another royal commission composed of the present railway commissioners, two representatives from the railways, and two from the trading community.

This would seem folly while the abuses disclosed by the select committee of 1882 remain unchecked. There are no less than 4,000 separate acts of Parliament relating to railway companies, the London and Northwestern Railway alone having eighty-two separate acts. It is impossible for shippers, to say nothing of the public, to know what is a legal and what is an illegal charge in the midst of such judicial chaos as this. In the meantime the railways systematically overcharge, especially on freight, and this is done secretly by wrong classification, and openly by demanding the illegal burden of "terminal charges." Moreover they designedly carry the products of other nations cheaper than home products; they discriminate against one port and in favor of another, and give one locality better rates than another much more favorably situated; they buy up competitive canals, cease to work them, or allow them to fall into disrepute, that in due time they may wring a few more shillings per ton out of the hapless shipper. They confer together to keep up charges and levy those charges without the slightest reference to acts of Parliament. These misdemeanors against the body politic they stand convicted of in the evidence which is before me in the testimony taken by the Select Committee of 1882.

In spite of this legislation, covering, as I have shown, a period of forty years—in which over 4000 acts of one kind and another have been passed with a view of fixing rates—no general principle has been adopted for fixing rates on any railway in the country. The charge for conveyance, any railroad expert will inform you, was such a sum, within the power of the company, as they thought the traffic would bear, having regard to competition, both of other means of

conveyance and of other districts or markets, and without reference to the cost to the company of performing the service.

Thus we find, on the confession of the managers themselves, rates are fixed in England on no intelligible principle, but arbitrarily at what the railway managers think the traffic will bear.

This report, and indeed all the subsequent British reports on the subject, pronounce most decidedly against "equal mileage" i. e., a charge for each class of goods and passengers in proportion to the distance for which they are carried. This is the fundamental principle, I believe, of the Reagan bill, and the objections urged against such a proposal in England will be of interest to American readers.

It would, the committee rightly urged, prevent railway companies from lowering their fares and rates so as to compete with traffic by sea, by river, by canal, or by the shorter or otherwise cheaper railways, and would thus deprive the public of the benefit of competition and the company of a legitimate source of profit.

It would prevent railway companies from making perfectly fair arrangements for carrying at a lower rate than usual goods bought in larger and constant quantities or for carrying for long distances at a lower rate than for short distances.

It would compel a company to carry for the same rate over a line which has been very expensive in construction, or which from gradients or otherwise is very expensive in working, at the same rate at which it carries over less expensive lines. In short, to impose equal mileage on companies would be to deprive the public of the benefit of much of the competition which now exists, or has existed, to raise charges in many cases and to perpetuate monopolies. And, moreover, I have found by a careful study of the testimony before the English commission, and by reading the speeches in the House of Representatives last winter, that the supporters of equal mileage, when pressed, often really mean

not that the rates they pay themselves are too high, but that the rates that others pay are too low.

While the value of equal mileage, I think, cannot be admitted as a principle, the farmers and traders both in this country and the United States are entitled to some kind of equality of charge. English farmers complain that imported agricultural produce is given bounty over home produce by being carried at a lower rate; that foreign corn and meat are carried from Liverpool to London for less than English corn and meat; that American cattle are conveyed from Glasgow to London for less than Scotch cattle; that cattle landed in Newcastle are carried inland for less than cattle reared in Northumberland and Durham, that foreign fruit and hops are carried to Boulogne or Flushing to London for less than fruit and hops from Ashford or Sittingbourne. Wire manufacturers complain that Belgium wire and other goods are brought from Belgium to Birmingham for less than similar goods are charged from Birmingham to London. Makers of chemicals complain that the coal which they use is made to pay higher rates than the coal sent past their works to Liverpool for exportation to their foreign rivals, and Limerick complains that foreign bacon and provisions are carried from Limerick at much less than is charged for Limerick bacon over the same route to the same port. Bradford complains that the export trade from both Manchester and Bradford enjoys rates which are preferential as compared with those for the home consumption.

In short, go where you will in England you hear bitter complaints against the railways from farmers, manufacturers, and from the Chambers of Commerce and Boards of Trade of the several cities and towns.

The only remedy for this condition of affairs yet proposed is a tribunal with full power to determine each case on its merits, and decide how far these differential charges constitute "undue preferences" as the English call it, "unjust discrimination" as we term it. The concluding remarks on English railways must be left for another letter, as I

purpose therein to show the relative rates of freight and passenger charges in England and other European countries, and bring out some other facts of interest and value to American readers.

LXXX.

CREWE—"THANK YE, SIR."

BETWEEN 7,000 and 8,000 hands are employed in this town in the shops of the London and Northwestern Railway Company. There are rolling mills, locomotive works, rail mills, fitter shops, carpenter shops, and other allied industries. It is essentially a railway town. It is, moreover, a modern town, and with some modifications, a coketown. The houses and mills are not so high as in the typical English coketowns. The workmen live in rows of small chocolate colored brick houses, which run with great regularity on each side of narrow but clean streets. The railway shops are certainly among the finest of the kind in the world, and as I was furnished with introductions to some of the managers by our consul at Liverpool, Mr. Packard, every opportunity was afforded to visit the works. There is little, however, of interest in this town to American readers, and I shall make my visit to it an excuse for continuing the topic of English railways and their management, weaving some of the important facts obtained here into the letter as we proceed.

In my last letter was given a brief history of railway legislation in England for the last forty years. It was shown that in spite of all manner of ratefixing legislation and a multiplicity of special acts dealing with rates or charges and a commission whose members were each paid a salary of \$15,000 per annum, the railroads continued to overcharge, combine, buy up canals, to un-

justly discriminate against certain ports and towns and against the home producer, and in favor of the foreign producer. That though a tribunal to judge upon these complaints was constantly in session, and even advertising for business, they did little more than Vermont, or Rhode Island, or Maine railroad commission, and have never exerted the influence, for example, that our Massachusetts Board of Commissioners have, though apparently in some directions exercising greater powers. The fact is, the commission has no data with which to determine charges of undue preferences, for the simple reason that the English railway companies have never been compelled to consent to an inquiry into the cost of transportation on their lines. When information of this kind has been demanded they either give an evasive reply or flatly assert that it is impossible to distinguish the cost of the various classes of traffic. This question of cost lies at the root of the matter, and here the United States is ahead of England, for our various State commissioners, the inquiry prosecuted by the census of 1880, which I had charge of, combined with a strong public opinion, have induced many railroads to give precisely the class of statistics needed to show what it costs them to carry all kinds of traffic, what profit these severally yield, and so on.

In all these matters I find the English statesmen groping entirely in the dark, and the railroad managers themselves in an advanced state of ignorance on the whole subject that would be grotesque did it not flavor of an actual desire to mystify the public, not to say mislead.

The American reader and especially those who have opposed Senator Cullom's commission bill will urge that the failure of the English Railway Commission is not a cheering fact for us on the threshold of a similar experiment, as it were. The present mode of enforcing the orders of the Railway Commissioners in England is entirely unsatisfactory and they should have conferred upon them all the powers and incidentals of a court of record.

Said Sir Edward Watkins, "The owners of \$3,500,000,000

of property are entitled to as high a tribunal as any portion of her Majesty's subjects." It is to be hoped Senator Cul-lom will bear in mind that the owners of \$7,000,000,000 of property have similar rights in the United States; that his proposed court must be of the very highest order. Important matters that will fix the law and practice all over the Union will come up before this court, and one recognized appeal to a higher court would be just and satisfactory. They should in fact have power to enforce the interests of the public and to give redress in any cases of illegal charges. The present English commission is a high-priced farce, with neither the confidence of the public nor the respect of the railroad companies, and I hope those who have charge of the inter-State commerce in the Senate will study the history of the English commission and look over its work before they recommend another commission bill, that they may avoid the danger with which it is now beset.

England has interested in her railways over \$3,500,000,000 of capital; she has nearly 20,000 miles of track, carries annually over 600,000,000 passengers, and employs in round figures as engine-drivers, stokers, guards, flagmen, and other officials (other than clerks), 140,000. On the other hand the United States has 120,000 miles of track which, with the rolling stock, buildings, etc., is estimated at a value of \$7,000,000,000 or double that of England, carrying 312,686,-641 passengers, and employing in round figures 420,000 persons in various capacities. The pay of those engaged in railroading in England will not average half what it is for the same class of employment in the United States. The Tenth Census Volume on Railroads shows that the average earnings of this class of the population (not including officers) in the United States is \$492 per annum. Three-fourths of those employed in England, numbering probably 105,000, earn less than \$5 a week, or \$250 a year—a large proportion of this number do not make over \$4 a week, or \$200 a year.

Americans traveling in England have observed the civility of the railroad porters, who as a rule run along the platform

as the train steams into the station, open the carriage door and volunteer to carry your luggage and parcels to the cabs. They have also observed the alacrity with which these porters pocket any small change the traveler may be willing to give as a tip with the characteristic touch of the hat and "Thank ye, sir!"

I have conversed with dozens of these men and find their earnings vary from as low as 14s. (\$5.50 per week in country towns to £1 (\$5) per week in important places.

"How do you live on such a salary," I said to a Great Eastern Company porter.

"Well, it is very 'ard, sir, but we pick up a little, such as gentlemen like yourself feels like giving us."

"How much does that average a week?"

"It is very uncertain. You see as a rule we don't get any silver unless it be three-penny bits. We 'aven't much American travel on this line, and tupence or threpence in coppers is looked upon as a good enough tip by most passengers, and of late years only a few gives that. And right glad we are to get even that, sir."

I have often noticed when traveling with Americans that they dislike to offer respectable-looking men, as most of these porters are, "coppers," and generally give them sixpence, or even a shilling, whereas the porters would be grateful enough for a few spare pennies.

The guards, of whom there are something like 10,000 in England, are only paid from \$6 to \$7 a week. These officials take the place of our conductors, and their hearts, or rather their hands, are as open to melting charity—or I should say "tips"—as he of the thin, dark green corduroy suit and silver buttons who handles the luggage for threepence. The guard's size is about a shilling to his own countrymen, and half a crown (62½ cents) to Americans. For this sum he will not infrequently give you a carriage from Liverpool to London all to yourself, or secure your party from intrusion. He will come to the window, radiant with smiles, and ask if "All is right, sir? Shall I change your hot-water tin,

sir?" or in the most saccharine voice tell you "The train will remain here ten minutes, sir, if you'd like to get out and stretch your legs, sir." The luckless passengers who fee not the guard may be packed in like sardines in a box, but the magic words "engaged" will secure the man who has "fixed the guard" a compartment to himself, especially at night. The pittance that these men work for is enough to obliterate their independence and compel them to accept the smallest bribes in return for personal favoritism.

LXXXI.

DERBY.—COMPARATIVE COST OF TRAVELING.

THIRD-CLASS traveling is increasing in England at a more rapid rate than first and second, and from this source the railroads are reaping the greater percentage of their receipts. The Midland Company has abolished second-class compartments and the results would indicate that the step has paid. Under the old system of three classes in 1874 this road carried something over 26,000,000 passengers and the receipts were 1s. 1½d. per passenger; in 1880 the total number carried was 28,000,000 and the receipts 1s. 2½d. per passenger. The following table, which I have compiled from official returns, shows the increase of third-class and decrease of second and first-class travel:

YEAR.	Per Cent 1st Class.	Per Cent 2d Class.	Per Cent 3d Class.	Total Per Cent.
1850.....	12.18	39.08	48.74	100
1860.....	12.31	31.54	56.15	100
1870.....	9.36	23.12	67.52	100
1880.....	5.94	10.71	83.35	100

The increase of travel of late years, as will be seen, has been very largely in third-class traffic. Railway managers have been compelled to furnish better accommodations and the third-class carriage of to-day is better than the second-class carriage was fifteen years ago, and on some roads as good as the old first-class carriages. Added to this England is becoming more democratic, and I have met officers of both service, substantial agriculturalists, minor dignitaries of the church, well-to-do-tradesmen, commercial travelers and a host of other quite agreeable and intelligent traveling companions in third-class carriages. The following is a comparative statement showing the mileage rates for the conveyance of passengers in the under-mentioned European countries. I have used the English penny (2 cents) and 100th of a penny:

COUNTRIES.	First Class.	Second Class.	Third Class.
Norway.....	1.08	.65	.34
Belgium.....	1.16	1.04	.59
Denmark.....	1.50	1.04	.65
Germany, Southern.....	1.55	1.06	.65
Sweden.....	1.55	1.08	.70
Greece.....	1.55	.93	.70
Germany, Northern.....	1.55	1.16	.77
Switzerland.....	1.64	1.16	.83
Netherlands.....	1.64	1.31	.82
Portugal.....	1.64	1.29	.90
Italy.....	1.73	1.42	.96
Roumania.....	1.73	1.34	.87
Austria.....	1.89	1.42	.97
France.....	1.93	1.44	1.04
Spain.....	2.01	1.55	.97
Hungary.....	2.07	1.56	1.05
Great Britain.....	2.21	1.60	.97
Russia.....	2.29	1.68	.88
Turkey.....	3.00	2.20	1.45

With the two exceptions of Russia and Turkey we find railway traveling more expensive in Great Britain than in any other European country. In the United States, like Russia,

a shocking example of protection and high-priced traveling, the average charge per mile per passenger in 1883 regardless of class was 2.42 cents or about 1½d. English money as against an average charge per mile per passenger in Great Britain of 1½d. Thus traveling is cheaper in all the protected countries of Europe (excepting Russia and Turkey) than in free-trade England, a fact with some subsequent facts about freight charges which I trust our protection editors and orators will please remember when the free-traders begin to groan next winter about the \$17 per ton duty on steel rails which we have more than once heard makes traveling so much more expensive and freights so much higher in the United States than in free-trade England.

When in London last week I obtained from Mr. J. S. Jeans, Secretary of the British Iron Trade Association and one of the best informed men in the kingdom on the subject of railway rates on iron and iron making material, some valuable statistics on comparative English and foreign railway rates of freight charges. A summary of Mr. Jeans' tables show that the average English rates for iron ore compared with the continental rates is about 58 per cent higher than that of France; 87 per cent higher than that of Germany and Luxemburg, and 82 per cent on the general average higher than continental countries. It is proper to remark with some regard to iron ores that the average distance over which they are carried in France and Germany is considerably greater than in England. With reference to the rates for the transport of pig iron from works to ports, the average ascertained for England is .83d. per ton per mile, as compared with .59d. for France and .58d. for Germany, showing a higher average rate for England of not less than 40 per cent as compared with France and 43 per cent with Germany. The average English rate for the transport of pig iron from works to inland markets is shown to be 1.01d. per ton per mile as compared with .50d. for Germany and .60d. for France. The difference against England being

102 per cent as compared with Germany and 68 per cent with France.

With reference to the rates charged in England for the transport of finished iron and steel it appears that the average of nine leading districts comes out as 1.06d. per ton per mile from works to ports against .59d. per ton per mile for France; .54d. for Germany, and .86d. for Belgium. Being respectively 79.96 and 25 per cent against England. The average of the English rates is higher than her continental competitors 120 per cent as compared with France; 115 per cent with Germany and 30 per cent with Belgium. The French rates, it is fair to state, do not usually include a small booking charge which may reduce the percentage somewhat and the average length of lead is, of course, greater in France and Germany, but allowing for all this we find in free-trade England, in spite of the starvation wages paid railway employees and the hours of work demanded of them, that rates for passengers and freight charges are by no means so cheap as free-traders would have us imagine. I make no comments on these figures, but commend them to all who are inquiring after truth.

LXXXII.

MANCHESTER—THE COTTON REGION.

LANCASHIRE is the most populous county in England, exceeding, in 1881, both Yorkshire and Middlesex, and numbering 3,454,225 persons. It contains two of England's great centres of industrial energy, Liverpool and Manchester, and besides its commercial importance it is the centre of England's greatest industry, which employs nearly half a million of men, women, and children, and which at one time almost supplied the world with cotton goods. It is not with the entire county that this letter purposed to deal, but with

what may be called the northeast and southeast divisions, which contain about two millions of the three and a half millions of population, and the towns in which districts are almost wholly given over to the manufacture of cotton goods. The cotton region is concentrated within the narrow area of twenty by thirty miles, and connected by a perfect network of railroads.

The centre of this remarkable district, from an industrial standpoint, is Manchester, though, geographically, Bolton is the centre. Combined with Salford, which is really part of the cotton metropolis, the population of Manchester is about 520,000, though, with the immediately surrounding places, local authorities put it at 800,000. The growth of Manchester has been almost entirely within the present century, though it was considered an important village centuries ago. Leland, who visited the town in Henry VIII.'s time, described it as "the fairest, best builded, quickest and most populous town of all Lancashire," which did not then speak much for its size. Camden in his "Brittaniæ," only devotes twelve lines to the Manchester of his day, though what he did say was decidedly complimentary: "This surpasses the neighboring towns in elegance, populousness, a woolen manufactory, market, church, and college." The town was even then famous for the manufacture of stuffs, though it is evident that the Manchester cottons of those days were made of wool. In 1750 a traveller visiting Manchester compared it with the most industrious towns of Holland; "the smallest children being all employed and earning their bread. Besides the cotton manufactures they deal in buttons, filleting, checks, and all kinds of small wares, as they are called, vast quantities of which they export abroad, to the West Indies particularly."

Such was Manchester over 130 years ago. It was called the largest village in England, and was governed by a Constable. Fifty years later, at the close of the last century, Manchester had greatly advanced. The Duke of Bridgewater, aided by the famous Brindley, had built his canal

and given Manchester with her 50,000 inhabitants cheap coal and transportation. The ingenious Arkwright had built a mill which the local historian of the time describes as "worked by a steam-engine and having one room 230 feet long and twelve yards wide." In commenting on the canal enterprise, Aiken, the historian of Manchester (1795), says, "Nothing but highly flourishing manufactures can repay the vast expense of these designs." When finished he thinks Manchester "will probably enjoy more various water communications than the most commercial town of the Low Countries has ever done." The principal cause of this sudden increase to the power of cheap carriage possessed by Manchester,—a power greater than that which made the prosperity of Ghent and Bruges,—was that within the period I have mentioned it had become the metropolis of cotton—the centre of that manufacture which from small beginnings had assumed what in those days were considered gigantic proportions. The population, busy when Defoe visited Manchester with "small things called Manchester wares," had passed away, and the foundation of a great industry had been laid. A century ago, of all British industries the cotton was probably the least conspicuous. Cotton did not enter into the common dress of the people. It was too dear for general use until the genius and ingenuity of such mechanicians as Lewis Paul, Lawrence Earnshaw, Hargreaves, Arkwright, Crompton, Kay, and Peel gave the spinning-jenny, the carding-machine, the water-frame, and the mule, and a score of other improvements, and instead of domestic production cotton goods became almost wholly the product of machinery. "To them it is," says Levi, "that we owe the factory system with its attendant advantages—economy of power, division of labor, and concentration of skill and superintendence; and to them, too, we are beholden for that extraordinary change in the fortunes of Lancashire, which henceforth threw aside her agricultural garb and almost pastoral simplicity to assume the more active and stirring occupations of industry and manufactures."

It is not necessary for me in this brief review of the early days of the cotton industry to touch on the endless difficulties, not to say hardships that the pioneers in this great industrial revolution had to encounter; of the jealousy which was excited by the innovations; how the house of Kay was entered into and every machine it contained knocked to pieces; how the Blackburn spinners were not content till they destroyed the jenny, and drove Hargreaves himself from his home. Arkwright was obliged to resort to all manner of stratagems to evade pursuit, and poor Crompton more than once was compelled to take his mule to pieces, and hide its various parts in a garret. These are all matters of history, full of the intensest interest after one has visited the factories of this district and become familiar with the great mechanical principles each one of these men evolved, and sees them all at work with the improvements of a century added.

The trade of Manchester before the days of railroads may be divided into four periods. The first is that when the manufacturers worked hard merely for a livelihood, without having accumulated any capital; the second when they had begun to acquire little fortunes, but worked as hard and lived in as plain a manner as before; the third when luxury began to appear and trade was pushed by sending out "riders" for orders to every market town in the Kingdom; and the fourth the period in which expense and luxury had made great progress, and were supported by a trade extended by means of "riders" and "factors" through every part of Europe. When the Manchester trade began to expand the "chapmen" used to keep gangs of pack-horses, and accompany them to the principal towns with goods in packs, which they opened and sold to shopkeepers, lodging what was unsold in small stores at the inns. On the improvement of the turnpikes wagons were set up for this trade and pack-horses discontinued, and the "chapmen" only rode out for orders carrying with them patterns in their bags. In those early days the good old dames of Manchester

regaled themselves with ale and a pipe, and the "new fashioned beverage," tea, was an innovation. Apprentices turned warping mills, and carried goods on their shoulders through the streets. The most eminent manufacturers were at their warehouses at six in the morning accompanied by their children and apprentices. At seven they all sat down to breakfast, which consisted of one large dish of water pottage, made of oat meal, water, and a little salt, boiled thick, and poured into a dish. At the side was a pan of milk, which with the oatmeal composed the breakfast. Besides ale, home-made wine was almost exclusively used, and a young manufacturer, for buying a pint of foreign wine to treat a good customer, subjected himself to the sarcastic remarks of all his neighbors. The young ladies went to pastry-cook school, and a dancing master on particular occasions used to make the boys and girls parade two by two through some of the streets. The club of the most opulent merchants was on the most economical plan; the expenses of each person were fixed at fourpence half-penny per evening—fourpence for ale and a half-penny for tobacco. Some of the tavern-keepers at the close of the last century were little short of tyrants. They refused to serve any one after 8 o'clock, and one named John Shame at that hour used to bring out a whip with a long lash, and clear the house. In those days the manufacturer did not disdain to mix with the humble tradesman in a common public house, to take his glass of punch and hear the news of the town. "It is not unworthy of remark," says Aiken writing in 1795, "and to a stranger is very extraordinary, that merchants of the first fortunes quit the elegant drawing-room to sit in a small, dark dungeon, for this house cannot be called by a better name; but such is the force of long-established custom."

With the dawn of the nineteenth century Manchester began a new era. Her population had increased in 1801 to 95,000. The same year the power loom was first brought into profitable use at Glasgow, and a few years later the ad-

vantage of the principle of automatic weaving was fully acknowledged. From this time the production and consumption of cotton began to increase, and with this increase Manchester and the surrounding district began a rapid growth. At the beginning of the century less than a hundred thousand bales of cotton were sufficient for the requirements of Great Britain, and now about three million of bales are required. The total value of manufactured cotton goods exported in 1800 was \$27,000,000, whereas in 1880 it had increased to \$377,500,000. In 1817 it was estimated that 110,763 persons were employed in Great Britain in the spinning of cotton, and the spindles then in motion numbered 6,645,833. Eighteen years later, according to the returns of the inspectors of factories (1835), there were 1,262 factories in operation employing 100,495 males and 119,639 females, making a total for the Kingdom of 220,134, nearly 123,000 of which number were engaged in Lancashire, 31,000 in Cheshire adjoining, 11,000 in the West Riding of Yorkshire, and 33,000 in Scotland. In brief, 165,000 out of the 182,092 engaged in England found employment in the district surrounding Manchester. It will be observed that half a century ago there were more persons employed in this industry in England alone than the census of 1880 shows to be employed at the present time in the manufacture of cotton goods in the United States. Also, that the phenomenal growth of this industry during the first thirty years of the present refutes Professor Sumner's absurd declaration that "protection kept England back a century."

LXXXIII.

EFFECT OF A FREE-TRADE POLICY.

With the expansion of the cotton industry, Manchester increased in population, but its most remarkable strides

were all made before 1851, before the United States began to manufacture for itself; and strangely enough its most marvellous growth of population was up to 1841, before Sir Robert Peel's Free-Trade policy was inaugurated. Below I have prepared a table showing the combined population of Manchester and Salford at the close of the several decades of the present century:

YEAR.	Population.	Increase Per Cent.
1801.....	95,000	..
1821.....	162,000	70
1831.....	238,000	46
1841.....	300,000	26
1851.....	400,000	33
1861.....	440,000	10
1871.....	476,000	8
1881.....	518,000	9

Total per cent of increase during century.....445

A glance at the above will show that so far as population is concerned Manchester has seen her palmiest days, and for the last thirty years, from one cause and another, is on the decline. Indeed, if we take Manchester separately from Salford, the increase in her population from 1861 to 1871 was only 3 7-10 per cent., while for the decade ending in 1881 the city has actually decreased in population 2 8-10 per cent, while the increase in population for the last twenty years has been only eight-tenths of one per cent. What would people in the United States think if their great manufacturing centres increased in population less than one per cent in twenty years? In my table I give Manchester the benefit of Salford, and then it will be seen that during the last thirty years the increase has not, on the average, reached one per cent a year.

What has the American protective tariff had to do with this migration of part of the cotton trade from Manchester

to New England? I will let English authorities tell the story, says a writer in the *London Quarterly Review*:

“The competition of the United States is certainly real. It has not only virtually deprived us of its 50,000,000 of people as customers, but it threatens us with permanent active rivalry in outside markets.”

Again:

“The American textile manufacturers have not only been loud in their demand for protection, but they have received it in a high degree. They have increased their consumption of cotton under its influence to such an extent that their imports of cotton goods have steadily declined from 227,000,000 in 1860 to 23,000,000 yards in 1881.

On the other hand, American exports of cotton goods reached in 1881 nearly 150,000,000 yards. It has been claimed in some quarters that the export of American cotton goods to Manchester was merely made to “raise money,” but this is most explicitly denied by Mr. James Thornely, an Englishman, who visited the United States a few years ago for the express purpose of investigating the matter, and whose report seems an impartial and exceedingly intelligent one. Mr. Thornely says: “In no case have the Americans sent cloth here in order to ‘raise money’ upon it, nor, as has been suggested, have the exports been merely relief shipments on which a loss could be afforded in consideration of the higher prices to be obtained in the protected home markets. The goods have always been sold at such prices as left a profit to their makers, and the transactions have, in every instance, been conducted upon a purely mercantile basis.”

Perhaps it is not generally known in the United States, outside of the cotton goods trade, that certain home-trade houses in England not only call English cloth American but stamp it with the names and trade-marks of certain American mills. At present American manufacturers have not thought it worth while to stop this fraud, but when foreign trade becomes an object they will undoubtedly take steps to

put an end to it. In summing up the result of this inquiry Mr. Thornely says:

"In the first instance, American spinners have a decided advantage in the cost of carrying their cotton—this amounting, as I have said previously, in round figures to 0.7 cent, or $\frac{1}{2}$ d. per lb. Another advantage is, that people in America work longer than in England, and they take fewer holidays. From what I saw, I should say that they drink less, but even if this is not the case, there is no doubt that drunkenness is less common than in England. Trades unions are almost unknown, and thus employers are able to make their calculations more surely, and the work-people can attend to their work better than in Great Britain. The earnings of the working classes are spent in providing for their wants, and what they do not require for this purpose is invested, thus providing capital for the further employment of the population, instead of being frittered away in vain attempts to raise wages to an unnatural level. The food-producing districts of the world are nearer to the American than to the English manufactories, and the necessities of life are therefore cheaper."

There can be no doubt that the cost on industry in England has reached its height and that Manchester has seen her palmiest days. I have already shown the decline in its population. The American Consul, Colonel Shaw, a close observer and careful statistician, openly says that Manchester has "touched the height of her fame and prosperity." He thinks "the day is not far distant when her decay will become apparent." The fact is, the decay is apparent now. My next letter will be devoted to the condition of the operatives in the industrial quarters of Manchester, and will unfold a state of affairs that Colonel Shaw himself did not know existed until he accompanied me to the wretched homes of hundreds of operatives. The explanation of the decay is simple enough and unanswerable. With protected barriers to aid them England's rivals have been making greater progress than England. The consumption of England's goods

no longer grows at its old pace and the population of the centre of the cotton trade remains stationary, while the condition of its operatives in Manchester and Salford grows worse and worse. In 1842 Great Britain consumed about 1,375,000 bales of cotton; the continent of Europe only 816,000 bales; and the United States about 325,000 bales. To-day Great Britain's annual consumption does not greatly exceed 3,000,000 bales; the continent of Europe has increased to an annual consumption of 2,500,000 bales; and the United States to about 1,500,000 bales. Thus under a protective policy the European continent and the United States have increased their annual consumption of cotton from 1,141,000 bales in 1842 to 4,100,000 bales at the present time, while Great Britain has increased from 1,375,000 bales in 1842 to 3,000,000 bales at the present time, an increase of 1,625,000 bales against an increase of nearly 3,000,000 bales for the European continent and the United States. Without going into the question as to whether or not a protective policy benefited England, we have here the important fact that since 1842 the consumption of raw cotton in protective countries has grown at a much more rapid rate than it has in free-trade England, and that whatever free trade may have done to benefit England, under the influence of protection, other countries have made greater progress. It is therefore safe to assert that foreign competition is at the root of the decline in the cotton trade, and of the decay of and decrease in the population of Manchester.

LXXXIV.

LABOR AND WAGES IN MANCHESTER.

IN a former letter from this place I gave a brief outline of the old-time Manchester—the cotton center of the eighteenth century. Its rapid progress in the first five decades

of the present century was pointed out, and then its gradual decline in population during the last thirty years. Of course this decline may be in part due to the growth of the thriving towns surrounding it, and it is in those towns that are found the finest mills, the best machinery, the most thrifty operatives. At Bolton I was taken over "Sunnyside" mill by Mr. Lee, one of the proprietors, and found it one of the finest mills I had ever visited. I presume there is nothing at home, even at Lowell, to excel it. The buildings were new and arranged on the most approved plans. The machinery embraced every improvement. The speed attained was the highest. Everything, from the top to the bottom of these spacious mills, seemed to move along the line of least resistance, all the finer points which have to be looked after in the cotton district in order to make a small profit were carefully watched, and expense in all directions was reduced to a minimum. Again at Oldham, where most of the mills for spinning are located, I found by following this specialty they had attained a lead in spinning the lower counts of yarn. In the same way at Blackburn and Burnley they have special advantages in weaving cottons. In all of these places the operatives were better housed, better fed, and earned better wages than the operatives in the cities of Manchester and Salford, for the reason that in some of the Manchester and Salford districts the mills and machinery are old and worn-out and poor. Although the wages paid are by piece, the slow motion of the machinery is such that operatives do not earn so much as they do in outside places like Bolton, Oldham, Blackburn, and Burnley, where the mills are new and run at greater speed.

For example, at Bolton I spent an afternoon with United States Consul Albert D. Shaw and Mr. Lee of the Sunnyside mills, among the operatives. We found them housed in comfortable cottage homes, many of which had been built by Mr. Lee, and all of which were let to the operatives at a fair rent. The mill is located just outside Bolton, and the houses seem almost in the country; the air is good and the

homes cheerful and comfortable—similar in many respects to Paisley. A school-room and tuition are provided for the half-timers, and also for the young children of the operatives. Temperate and thrifty habits are encouraged, and the operatives are treated with some consideration. But unfortunately all the mills are not Sunnyside mills; a good many of them, especially in Manchester and Salford, are rather "gloomy-side" mills, and the operatives live in narrow, smoky streets and breathe the fetid atmosphere of wretched homes into which not one ray of sunshine ever penetrates and where there is no future for the inmates but the workhouse and the grave.

Some idea of the difference in the wages paid in this industry in New-England and Lancashire may be obtained from the following table:

COTTON GOODS.

	United States Weekly Wages.	England. Weekly Wages.	
Overseers (carding).....	\$20 50	Overseers (carding).....	\$7 30
Overseers (spinning).....	20 00	Overseers (spinning).....	10 50
Overseers (weaving).....	21 50	Overseers (weaving).....	9 50
Overseers (yard).....	19 25	Overseers (yard).....	9 75

CARDING.

Bobbin tenders.....	\$5 25	Bobbin tenders.....	\$2 25
Carders	8 00	Carders.....	8 00
Drawing hands.....	6 00	Drawing hands.....	4 25
Shibbers	6 50	Shibbers.....	4 25

SPINNING.

Doffers (young people)...	\$4 00	Doffers (young people)....	\$1 25
Spinners, M.....	9 75	Spindlers, M.....	4 50
Spinners, W.....	5 00	Spinners, W	2 25
Twisters	5 25	Twisters.....	2 75
Winders, W	7 00	Winders, W.....	2 00

DRESSING.

Dressers.....	\$7 50	Dressers.....	\$6 00
Slashers	10 00	Slashers	7 50
Spoolers	5 00	Spoolers.....	3 50
Warpers, W	6 00	Warpers, W.....	4 25

WEAVING.

Weavers (4 looms), W ...	\$6 50	Weavers (4 looms), W....	\$5 25
Weavers (2 looms), W ...	6 00	Weavers (2 looms), W....	3 35
Weavers, W	6 50	Weavers, W	3 50
Weavers (young people)..	5 50	Weavers (young people)..	1 25

CLOTH ROOM.

Cloth-room hands, M and W	\$6 25	Cloth-room hands, M and W	\$4 75
Cloth-room hands (young people)	6 00	Cloth-room hands (young people)	3 25
Cloth-room hands (children)	4 25	Cloth.room hands (children)	1 25

ENGINEERS AND FIREMEN.

Engineers.....	\$16 50	Engineers.....	\$8 25
Firemen	8 50	Firemen	5 50
Laborers.....	6 75	Laborers	5 50

FLAX AND JUTE.

Overseers	\$12 00	Overseers	\$6 75
Overseers (weaving).....	10 50	Overseers (weaving).....	5 85

CARDING.

Carders	\$7 00	Carders	\$6 80
Carders, W.....	4 30	Carders, W	3 80

SPINNING.

Piercers, Y. P.....	\$3 25	Piercers, Y. P.....	\$1 50
Reelers, W	6 80	Reelers, W	3 30
Spinners, W	4 90	Spinners, W	2 50
Winders, W	3 60	Winders, W.....	3 00
Dressers, M.....	9 50	Dressers, M	5 60
Weavers, M.....	9 00	Weavers M.....	6 50
Weavers, W	6 00	Weavers, W	2 50
Calenders, M.....	7 25	Calenders, M.....	5 50
Packers, M.....	8 50	Packers, M.....	6 10

MECHANICS.

Machinist.....	\$10 50	Machinist.....	\$8 25
Engineer	21 00	Engineer	8 75

LXXXV.

THE DWELLERS OF COKESTOWN.

TAKE a map of Manchester and divide the city into five districts; the centre district, extending east of the river Irwell, say to London Road Station, north a little beyond Market street, and south a few blocks below Liverpool road and Great Bridge street, and you have what may be termed the commercial part of the city, the handsome blocks of shops, the tall warehouses, and the magnificent public buildings, for which the town is so justly famous. Further south you come to a district of which Stratford, New Road, Cavendish street, and Grosvenor street may be considered the centre, and here is the residence of well-to-do mechanics and persons of small means. On the east and the west of this, extending beyond the boundaries of the town, are the handsome villas and residences of the merchants and the wealthy classes of Manchester. Coming from one end of the social scale to the other, and in doing so from the extreme south to the extreme north of the city, one finds a quarter bounded on the northeast by the Oldham road, with George road for a centre, in which reside the thieves, the low Irish, the man who has no visible means of support. In this district the public houses are of the lowest order, and the people that inhabit it the worst, and if any one doubts what I say, let him take a walk after 9 o'clock some evening through Angel, Charter, Goulden and Abel streets, Crown lane, Crown street, Ashley lane, Longmillgate and Rochdale road. This district is the lowest quarter of Manchester.

I have been thus explicit, because in some of my former letters, though I have never confused the industrial with the low quarter of a city, I have been accused of so doing by persons who, for various reasons, did not relish reading the truth about Industrial England. Having thus in a gen-

eral way outlined four districts of Manchester, I will attempt to describe the largest and most important, the industrial quarter of the city, where the great mills are located and where the operatives live. This district has for its north-western boundary Oldham road. On the east it extends to the boundary of the city, its southern extremity is the Manchester and Sheffield Railway track, and it runs northwest until it almost touches London road and Piccadilly, and comprises an area of three square miles of closely-built dwelling houses and tall, unpicturesque mills. I walked through this entire district, and visited more than a hundred and fifty of the operatives' homes, taking ten or a dozen on each street. The names of some of the principal streets so visited were as follows: Great Ancoats street, Union street, Bœwick street, Butler street, George Leigh street, Gunn street, Bengal street, Primrose street, Elizabeth street, Bosham street, Canning street, Thompson street, Chadderton street, Woodward street, Bach street, and a number of others the names of which I failed to take down.

I was accompanied by United States Consul Shaw and Inspector P. H. Gillespie, especially detailed by Chief Constable Wood to show me the industrial quarter of Manchester that I might be enabled to fairly judge of the social condition of the working classes of the cotton metropolis.

There were miles of narrow streets and thousands of houses. Some had bare wooden floors, some had red-brick floors, some had bare flag-stone floors. Hardly one had a vestige of carpet. The rents for these houses, containing two or three little rooms, varied from as low as 2s. 6d. (60 cents) to as high as 6s. (\$1.44) per week. The landlords never do anything for their tenements, but they are allowed to crumble gradually to pieces until they become uninhabitable. The rent collectors were like the ever-steaming Pancks, and I have no doubt that the owners of this property are benevolent-looking old Casbys, who keep in the background and send their emissaries into these Bleeding Heart yards of Manchester to squeeze and

grind, and many a pale-faced woman told us that one week's rent in arrears brought down upon them the bailiff, and the few chairs, the deal table, and the cheap bedstead were sold to pay the rent. Both Colonel Shaw and myself were greatly surprised to find the homes of the industrial classes in Manchester so poor. In our walks we met with, besides mill-hands, many other classes of artisans, farmers, engineers, tailors, blind-makers, chair-makers, polishers, butchers, grinders, printers, dyers, and here and there a laborer. The average amount that these people actually received per week during the year hardly ever exceed a pound, or \$5. They live from hand to mouth, generally in one room, in which a few chairs, a deal table, a bedstead, four or five cups and saucers, a few dishes and plates, a wash-tub, a saucepan, and a kettle comprised the chief articles of furniture. Everything, in many cases including the sleeping and family washing, is done in the general room. I cannot recall a single instance in which I found that the wife had made much effort to make the home comfortable or cosey, hardly to say clean. The outlook was so cheerless that perhaps they had not the heart to make an effort. In one home where the husband was a fine-yarn spinner, the following conversation took place:

“What does your husband do?”

“He is a fine-yarn spinner.”

“How much does he earn?”

“Well, he can earn sometimes as much as 30s. (\$7.50),—that is, when work is brisk,—but he never brings that much home.”

“Why not?”

“As a rule 5s. goes for the club and union. Last week the assessment was 7s., and I never get a pound for house expenses.”

“What is her husband?” said Colonel Shaw to a bright little woman of twenty-one, rather neater than the average women of the neighborhood.

“A laborer in an ivory factory,” she replied.

"How much does he earn?" asked the Colonel.

"Only 16s. (\$4) a week, sir."

"Why, how do you live?" asked the surprised Colonel.

"It's pretty hard, sir," replied the little woman; "we never eat meat, of course, and you see what our home is."

And the kind-hearted Colonel put something into the little woman's hand and remarked to me, "This is awful," as he walked away.

In no case did we find a female spinner who earned more than 14s. (\$3.36) a week, a piecer who earned more than 10s. 6d. (\$2.52), a weaver who earned over 16s. (\$3.84) if a woman, and not over 22s. (\$5.28) if a man. I do not say that in such mills as I have described at Bolton, Oldham, Blackburn, or Burnley, under more favorable circumstances the operators cannot earn more; but the above were the highest wages we were able to discover in the industrial quarters of Manchester,—that is, from an operative's standpoint. I might add that Mr. Robert Giffen, of the Board of Trade, has kindly provided me with a proof of his forthcoming wage-tables to be published in the *Miscellaneous Statistics* volume for 1882, and that the statement as given to me by the operatives agrees with the official returns sent to the Board of Trade by the manufacturers.

At one house we met an old man who had for thirty years been a stripper. He furnished his own frame, and earned from 12s. to 16s. a week. "Meat!" said the old man, in reply to a question put to him by Colonel Shaw, "why, I never see it, except in the butchers' shops." He accompanied us to a place where a number of strippers were at work stripping various kinds of corduroy. The women told us that by working all the week at this monotonous work they could net 8s. (\$1.92.)

In the course of this dismal journey through the habitations of these industrious people, the profit from whose hard, incessant toil has built the great city of Manchester, Colonel Shaw met one of the great mill-owners of the district. He was a fine specimen of an Englishman, and he stood on

the front steps of his mill surveying the scene with complacency, thinking, no doubt, how he could still further reduce the cost of cotton and cloth a tenth of a farthing a yard. The following dialogue took place:

"I feel," said Colonel Shaw, "almost sick at heart at what I have seen to-day. Did you ever put your nose in the houses of the working people of this district?"

"Never."

"Why, their homes are very wretched. You ought to see the homes of the operatives in the United States; they live in a paradise compared to this."

"Ah, well, you don't say so? You surprise me."

"I could not have believed they were so bad here if I had not gone round and seen for myself. They are so comfortable in some of the smaller towns of the cotton district that I had no idea there was so much difference. It is enough to make any one ill to see so much poverty and misery among the industrial classes."

It will be seen by this that some mill-owners themselves know nothing of the real condition of their operatives.

As we returned from one of these excursions we met a large number of girls and women streaming out of the mills. Their pointed wooden shoes clattered on the pavement. I wonder what the Lowell factory-girls, with their neat hats, and sunshades, and natty boots, and white cotton gloves, would think of wooden shoes, the uppers nailed to the soles with brass-headed nails! Cheap as clothing is said to be in England, the Manchester girls wear no hats; an old shawl and a dirty print gown and wooden shoes form their street toilet as they go to and return from their daily toil.

The following estimate of the rates of wages in cotton, carding, and spinning in Manchester and neighborhood is from the *Miscellaneous Report* (1882), and was furnished me by Mr. Giffen. It is only fair to say that Mr. Giffen is dependent for these statistics on the returns obligingly communicated to

his department by the councils and secretaries of Chambers of Commerce and by private firms. The following estimate, though coming from the manufacturers, so nearly accords with the statements made to me by the operatives that I believe it to be the most accurate estimate of the kind ever published:

Description of Occupations.		Rates of wages per week.
Carding—		
Scutchers	{ Men.....	\$5 80
	{ Girls.....	1 98
Strippers	{ Men.....	5 80
	{ Lads.....	3 48
Grinders	{ Men.....	5 16
	{ Lads.....	3 48
Lap and can tenters, women.....		2 16
Drawing-frame tenters, women.....		3 48 to 3 68
Roving and slubing, women.....		3 60
Bobbin and fly tenters, girls.....		1 75
Sweepers, girls.....		1 50
Card minders, men.....		6 48
Under carders, women.....		2 88
Overlookers, men.....		9 24
Spinners—Upon self-acting mules—		
Minders, men.....		6 90
Creelers, lads.....		1 50
Piecers, women and boys.....		2 05 to 3 00
Overlookers, men.....		8 00 to 11 00
Throstle Spinning—		
Spinners, women.....		3 48
Spinners, girls.....		1 00
Doffers to spinners, lads.....		2 16
Overlookers, men.....		6 00
Overlookers' assistants, men.....		4 50

The Board of Trade returns gave no estimates in regard to cotton-weaving, but I append the following made by Consul Shaw. It must be borne in mind that Colonel Shaw's admirable estimates of wages are made for the towns outside of Manchester and Salford, and, as in those quoted below, for some specific mills, therefore they can hardly be taken as an average for the entire district:

Kind of Work.	Wages per day.
Weavers, 3 looms.	\$0 64 to \$0 72
Weavers, 4 looms.	80 to 96
Weavers, 6 looms	1 20 to 1 44
Weavers, children, half-timers.	14
Beamers or warpers.	70 to 90
Winders.	50 to 80
Tapers or sizers.	1 20 to 1 68
Tacklers or overlookers.	1 12 to 1 68
Engine-drivers and firemen.	96 to 1 68

On the other hand, Mr. Giffen's report is compiled from the returns from a number of mills, and in no case, the compiler informed me, from the information obtained from a few mills. It is impossible to compare the rates of wages in this industry in England with the rates paid in the United States, because the nomenclature is so entirely different. Indeed, were I to attempt it I should tire my readers with details that are only interesting to the trade. The most trustworthy statement of the rates of wages in the cotton mills of the United States may be found in Carroll D. Wright's thirteenth annual report of the Bureau of Statistics of Massachusetts.

Wages in the Manchester district are considerably lower than in the United States—at least, I should think, 50 per cent lower, in some instances 75 per cent; and on the other hand, if you take exceptional towns and exceptional mills, as, for example, the Sunnyside mill at Bolton, the difference is not nearly so great—possibly not more than 25 per cent. With this cheaper labor, with a climate that is superior for the finer spinning; with cheaper machinery, with a class of operatives that are fixtures to the mills and not constantly moving westward and aiming for better things with half a century the start, it is hardly surprising that the *Manchester Examiner* should declare editorially that “if the United States were to abolish the duty on cotton goods we should shut up every one of their cotton mills in less than two years.” A good deal of this is British bluster, and will evoke a quiet smile from such men as Charles H. Dalton, of the Merrimac mills, and a dozen others I could name. At

the same time America needs judicious protection in this as in every other industry.

In my last letter I produced figures that show conclusively that England's protective competitors have been making greater advances since 1842 in this industry than she has done; in short, that they are outstripping her in the race. It is nothing but British obstinacy that prevents her people from seeing this. On the other hand, the protective continent of Europe and the United States must bear in mind that England had half a century the start, and that this rapid growth may be due to the fact that when these countries ceased to be mere dependants on England and decided to build factories of their own they were unable to meet the home demand for goods without rapidly multiplying factories and spindles. The actual number of cotton spindles in the world is estimated at 70,000,000, and the number of operatives at 1,370,000, viz.:

Countries.	Operatives.	Spindles.
Great Britain.....	480,000	40,000,000
United States.....	200,000	10,500,000
France	210,000	5,000,000
Germany	136,000	6,000,000
Russia.....	130,000	3,500,000
Switzerland, Austria, India.....	250,000	5,000,000
	<hr/> 1,370,000	<hr/> 70,000,000

The latest return of the United States census gives the total number employed in the cotton industry and industries of which cotton is the chief component material as something over 200,000. But these factories, operatives and spindles are scattered over a continent, 439 factories being located in the New England States, 139 in the Middle States, 161 in the Southern States, and 17 in the Western States. On the other hand, of the 483,000 persons engaged at present in the cotton factories of the United Kingdom, 372,218 are employed in Lancashire alone, in the district described in my last letter, within an area of twenty by thirty miles. This shows the wonderful concentration of force in England—a

concentration that can be found in no other country of the world. And the advantage possessed by England is, that even in this narrow area each town has its specialty—a fact brought out in the beginning of this letter and proved from the ease with which different branches are kept distinct. Of the 372,218 persons employed in Lancashire, 101,241 are engaged in spinning, 102,783 in weaving, 165,508 in spinning and weaving combined, and 2,386 unenumerated. Whatever may be the future of the American cotton industry, it is certainly in no condition at the present time to compete with Great Britain. That America excels the world in some lines of goods is true, and that England steals the trade-mark of some American mills is admitted by English authorities. I may even go so far as to admit that this industry has emerged from its period of infancy, but it still consumes but half the cotton that Great Britain does, and employs less than half the operatives. There is a tendency among some of the New England cotton manufacturers to overestimate their own strength. Reduce the present barriers ever so little, and England, with her thousands of half-fed and badly-housed operatives, stands ready to "shut up every one of their cotton mills in less than two years." With a liberal allowance for British bluster, there is some truth in this frank announcement.

LXXXVI.

FURNESS ABBEY—A TRAGIC STORY.

IT would have been impossible to see what I shall term the twin American manufacturing towns of England, Middlesboro and Barrow, under the guidance of one better qualified for the task of guide and adviser than Mr. I. Lowthian Bell. In all matters appertaining to iron and its manufactures Mr. Bell is the foremost man in England and a

recognized authority throughout the world. He has been commissioned to the principal world's expositions and has visited the iron centers of all iron-producing countries, and studied for himself the quality of the ore, the nearness of coal, and the methods of manufacture. There is no English authority on iron better known or more widely respected in the United States than Mr Bell, and to be taken in hand by him I regarded as a special piece of good fortune. His book, just published, "Principles of the Manufacture of Iron and Steel," is one of the most exhaustive and useful treatises on the subject we have had in recent years, and, moreover, goes into the economic phases of the question with a considerable degree of fairness for one so closely wedded to the doctrine of free trade as Mr. Bell is. Mr. Bell has vast interests both in Middlesboro and Barrow, and I was offered every possible opportunity to study Middlesboro under the direction of Mr. Bell and his son, Mr. Hugh Bell, together with Mr. H. G. Reid, the proprietor of the Middlesboro *Gazette*, and one of the partners of Mr. Andrew Carnegie in the syndicate of English newspapers.

This letter will deal with Barrow and the iron industry. It is tiresome work traveling east and west in England, as there are no through routes. I started from Middlesboro on the east coast for Barrow on the west coast, accompanied by General J. Blackburn Jones, of Chicago, and Mr. David Dale, one of the directors of the Northeastern Railroad Company, at 2 in the afternoon, and did not reach Furness Abbey Hotel until 8 o'clock at night, where we found Mr. Bell awaiting us. During the journey thither I think we changed cars seven times.

Domestic matters were somewhat mixed at the hotel. The landlord, John Brownwick, had just shown the bad taste to commit suicide under circumstances that may prove a warning to those who advertise for wives. Having already deposited the remains of two devoted women within the shades of the ancient abbey; and in spite of the fact that he had three pretty daughters to cheer his declining years,

John seems to have longed for more feminine society to gladden his solitude, and, with pathetic simplicity, inserted his desire in the columns of a London newspaper. Among the applicants was a rather antique member of the corps de ballet, who danced into honest John's affections by dint of lengthening her skirts, tucking her blondened locks under a matronly cap, and throwing her rouge-pots into the bay. In spite of the outward change, the passée coryphée retained sufficient of her former friskiness to make life a giddy whirl for the daughters and the servants of the hotel. In four weeks, driven desperate by their complaints, his own discomfort, and the grumbling and astonishment of the tourists of the lake district, the unhappy host shut himself up in a room and cut his throat.

The relict of Mr. Brownwick, or the "bride of a month," as the sensational newspapers would put it, received us with a stony dignity, and, excepting the poverty of our entertainment and the fullness of our bill, there was nothing to complain of at Furness Abbey Hotel.

Though Barrow is a modern town (for England), Furness Abbey is one of the most ancient as well as one of the most celebrated monastic ruins in the kingdom. It was founded in 1127, and judging from its extent must have taken many years to build. The spot selected for it, though excellent for defense against the methods of warfare of those times, must have been desolate in the extreme. Within the memory of people now living the roads in this vicinity have been impassable for vehicles of any kind. What could they have been in the twelfth and thirteenth centuries is a thought that has occurred to me more than once. The abbey was defended on the east and south by the dangerous quicksands of Morecambe Bay (dangerous to this day), on the west by the Irish Sea, and on the north by hills which in those days were covered with forests. It was therefore measurably secure from Scottish freebooters, who often, to gratify their passion for plunder, swooped down upon these repositories of wealth, ease, and plenty. The Abbot of

Furness, before the times of Henry VIII., exercised vice-regal power over the country hereabouts. He levied and collected taxes, appointed all local officers, and disposed of criminals. It was, moreover, I am informed, a parent monastery, and several other lesser houses, covering a vast territory, were direct filiations from Furness.

But the storm which swept over England when Henry VIII. quarreled with the pope was not likely to leave such a wealthy and powerful establishment unhurt. It reached the monks of Furness in their quiet abode, and, after being charged with treason, conspiracy, falsehood, disrespect to the king, and a number of other terrible crimes, they were thrown into dungeons and the church property "surrendered to the king," which meant in those days divided among the cormorants who executed the king's commands. This abbey now belongs to the Duke of Devonshire, and though it came into his family by marriage, the original owner, Thomas Preston, actually purchased it of the crown, a somewhat unusual occurrence for those days, church property oftentimes being the reward of personal and not infrequently disagreeable service to the king. But I must leave the tourist, who has abundant time to wander amid the ruins of this stately ecclesiastical edifice, with its chaste and beautiful columns, symmetrical arches, quaint carvings, and elegant tracery, now covered with ivy and rapidly crumbling into decay. It is for them to picture this wonderful building as it was four or five centuries ago: to paint, if they please, the old abbot who controlled so much of the wealth of the surrounding neighborhood, with his armed retainers, his retinue of servants, and his pious monks, and to take a dip into the manners and customs of those stormy days in England's history. For an industrial series of letters perhaps I have already said some things that may appear irrelevant to the subject in hand, and the sooner I retrace my footsteps and get back to Mr. Bell and the industrial growth of Barrow, perhaps the better.

LXXXVII.

BARROW-IN-FURNESS — A NOVEL TOWN.

WHILE Barrow is an exceedingly novel town, and Mr. Gladstone himself has said of it that "it probably would not be practicable to find a match for it in any portion of the country," it has little that is curious or interesting to Americans. We have twenty Barrows scattered over the American continent. Not, perhaps, all iron and steel and ship-building Barrows, but silk Barrows, woolen Barrows, cotton Barrows, and coal Barrows. You will find them in the Western States, on the Pacific coast, and only last year I visited and described several in the Southern States, where before the war a Barrow or a Middlesboro was as much of a curiosity as in England.

If I may judge from a bass-relief of bronze on a statue of Sir James Ramsden, who is the tutelary genius of the place, the fishing village of Barrow in 1846 consisted of a thatched cottage, a number of goats browsing, a woman nursing her infant, Piel Castle in the distance, and a tiny vessel in the channel. To-day it is a manufacturing center of 55,000 inhabitants, with one of the largest steel-works and one of the best shipyards in the kingdom. It has excellent docks, a flax and jute mill capable of employing 3,000 hands, and a number of other important industries. The town itself has steadily advanced with the population. The streets are well paved and conveniently laid out, the public buildings are substantial, and some of them, notably the Town Hall, handsome. The shipyards of Barrow produced the City of Rome, and are capable of building a vessel 1,000 feet in length. The population of the town is almost exclusively made up of working people and their families. These families are housed to some extent on what is called the "Scotch plan," namely, houses with three floors, each family occupying

a floor, consisting of two rooms and a kitchen. These houses reminded me of those at Essen, in Germany. The interiors of a number into which I entered were far from being comfortable. Women and children huddled together around the fire, complaining of dull times and high rent. The laborers' huts on Barrow Island, about 900 in number, were erected in order to furnish house accommodations, and now constitute one of the curiosities of the place. The wages in the jute-mills have been reduced to those paid in Dundee, Scotland, but the business is not profitable, and the hands are out on a strike. The fact is, Indian competition has ruined this textile industry of England. If Barrow, with all the capital of the Duke of Devonshire and the Duke of Buccleuch at the back of it, could not make it a success, it would indicate that the extension of flax and jute manufacturing is at an end in the United Kingdom. The works at Barrow are, nevertheless, as complete and large as any in the world.

The comfort of the working people of Barrow has not been neglected to such an extent as I regret to say it has in so many of the industrial centers of England. There are workmen's baths, workmen's clubs, workmen's reading-rooms, workmen's coffee and cocoa rooms, and, of course, as in all British towns, workmen's gin-shops. Barrow and Middlesboro present to my mind the best examples of English iron centers; South Wales, Sheffield, and parts of Staffordshire and Worcestershire the worst. The change from iron to steel perhaps more than anything else has had to do with the growth of the two great northern centers of the British steel trade, and the old districts are left far behind. Charcoal iron has been made of the iron ore of the district for centuries. I was shown a furnace on the estuary of Morecambe Bay which was originally built in the year 1710, but it was the advent of the Barrow Hematite Steel Company that increased the population of the town from 3,000 in 1851 to 8,000 in 1861, to 18,911 in 1871, to 47,111 in 1881, and to 55,000 to-day. I have visited the principal iron and steel

works of the world,—including Krupp's, at Essen, Germany; Schneider's, at Creusot, in France; Cockrill's, at Seraing, Belgium; Armstrong's, at Newcastle; Bolckow & Vaughn's, at Eston; Bell Brothers', at Clarence,—and must say that while some of them employ a larger number of hands, none of them are more complete in every particular than the Barrow works. A brief description of these works can not fail to be of interest in the United States, particularly to iron manufacturers.

There are altogether sixteen blast furnaces, fourteen of which are built in a single row, while the remaining two are distant about half a mile. The weekly production of the blast furnaces averages when fully employed 5,500 to 6,000 tons. The average height of the furnaces is about sixty-three feet, none of them reaching the height of the Middleboro furnaces. The blast is partly heated by Whitewell's, partly by Cowper's, and partly by Ford & Bunker's stoves. The average consumption of fuel is one ton of coke per ton of pig-iron made. The ore is obtained at the company's own mines in the vicinity, and averages about 60 per cent of metal. The consumption of limestone is almost 9 cwt. per ton of iron made. The blast is heated to a temperature of 900 to 1,100 degrees. Each furnace is fitted with six tuyeres, the diameter of the nozzle being three and a half inches to four inches. The larger furnaces have a bosh of twenty feet in diameter, and the smaller ones a bosh of nineteen feet. The engines that blow the blast are a remarkable feature of the iron works. There are three beam and eighteen grasshopper engines. Of the latter kind there are ten in one engine-house. As I stood watching these monsters working, the chief engineer of the works, Mr. R. Collenette, said, "You are in the largest engine-house in the world."

The hoists are inclined planes, and are worked by special engines, there being a separate engine for each of the six inclines that are attached to the fourteen furnaces. The furnaces are fitted up with the apparatus for the utilization of the waste gases, which are sufficient to supply all the heat-

ers and boilers without any other fuel. One of the effects of this is to make the Barrow works the cleanest establishment of the kind in the world. Added to this, the system for disposing of scrap and slag is so perfect that no waste material is scattered around the adjacent premises. The brick around the boilers is whitewashed and the doors of the furnaces are blackened, and all rubbish swept up, giving the works an unusually neat appearance.

The blast furnaces are distant about 200 yards from the steel works, the intervening space being occupied by sidings and filling sheds, and a spacious cast-iron bridge, spanning the whole of these sidings, connects the one department with the other. The steel works are in three large bays or roofs, each 700 feet in length. The productive capacity of the steel works is 3,500 tons per week. Rails constitute the principal branch of manufacture, there being three large rail mills, one plate mill, and one smaller mill for merchant steel. There are eighteen converters and twelve steam hammers.

LXXXVIII.

I. LOWTHIAN BELL.

I ASKED Mr. Bell if he had looked into the question of the cost of producing Bessemer pig-iron in England and the United States, and he replied he had given it the most careful consideration in all its bearings.

“What is the result?” I inquired.

“Not only did I study the question when in the United States,” responded Mr. Bell, “but more recently I have been favored by American friends with tabular statements of the actual number of men employed at their respective furnaces. By comparing these with what may be considered the average practice in the best arranged of our modern English furnaces, the comparison points to the

conclusion that in those of the United States one sixth more men for each furnace is required for producing less than half the quantity of iron. Besides this difference, the present average earnings of the staff being higher in America than in England, the cost of labor on a ton of pig-iron in the particular cases compared is in the former more than double what it is in the latter."

The portion of the above statement referring to the employment of a greater number of hands to do the same work in the United States is a surprise to me, and I hope some of our blast furnace men will explain it. As the labor engaged in mining, conveying the raw materials to the furnace and smelting the ore, forms about 80 per cent of the cost of pig iron, it is easy to understand the cost of production is nearly, if not quite, double in the United States, but it does seem strange that we employ one-sixth more men for producing half the quantity of iron. Mr. Bell is positive on the question. Who is prepared to question the statement?

"Taking the entire range of iron making as a whole, what should you say Mr., Bell, as a free-trader, and as a man who has studied the subject for forty years, is the difference in the cost of producing iron in England and in the United States?"

"I have arrived," said Mr. Bell, "at the conclusion that we are within the mark in saying that the entire range of iron making, as a whole, costs the American community for labor something like double what it does the British nation."

In some instances Mr. Bell explained to me that he thought this arose from the price per ton or the daily wage actually paid being in accordance with this difference; but he also contends that there is another way in which a man may improve his position, by insisting on additional help, and by himself doing less work. Here we have a free-trader and a scientific man examining these facts in relation to the cost of production in America and in England and arriving at precisely the same conclusion as I have done. Yet hundreds of free-traders, who have never taken the trouble to look

into the matter at all, have denied this, some actually declaring that the cost of labor in the two countries was about the same, the difference being made up in the extra ingenuity of the American workman and his capacity to do more work than his foreign competitor. Mr. Bell flatly denies this, and declares that the American workman does less and is paid more.

LXXXIX.

LIVERPOOL—THE IDEA SHE SYMBOLIZES.

Every city, it has been remarked, symbolizes in concrete form some great idea; and the large commercial cities of England of to-day are the embodiments of human science applied to facilitate the processes and augment the results of human industry. Liverpool, perhaps more than any other city in the United Kingdom, symbolizes England's greatness as a commercial nation. In appearance Liverpool is disappointing enough, especially to those who steam into her harbor from foreign shores. Little else can be seen through the fog and mist but miles upon miles of docks and warehouses, and these only dimly. The clear blue sky and bright sun one leaves behind in New York rarely lends its aid to beautify the port of Liverpool. It seems to be perpetually bathed in mist, fog, or penetrating, drizzling rain, which even when broken by occasional gleams of sunshine reveals no pleasant spots of verdure, green trees, or clambering masses of vine among its solid piles of bricks and mortar. Indeed, church-spires and bare masts afford the only breaks in the monotonous lines of buildings. There are some handsome public building, but they are blackened by the atmosphere, and have a cold and somewhat gloomy appearance. The shops on the fashionable business streets make rich displays of goods, and the lines of magnificent equipages, with liveried servants, that one sees in the afternoon on these

streets are indicative of the wealth of the place. The club houses are palatial buildings and luxuriously furnished.

The *élite* of Liverpool inhabit fine houses with conservatories and elaborate gardens in the outskirts of the town. Many of the richer families have houses in London, and some dwell all the year around in the rural districts of the neighboring counties of Cumberland and Staffordshire. Some of these who are called "the best people" live in the town. In olden times Duke street was the favorite residence of the higher class of Liverpool merchants. This street is identified with the names of most of the families, who, by their enterprise and sagacity raised the port from a petty haven for coasters to a world's emporium. The occupants of these old-fashioned mansions were once nearly all engaged in the slave trade.

In those days, it has been said, the songs, the dances, and the luxurious living of Liverpool sprang from the groans and anguish and horrible sufferings of the slaves bought and sold by Liverpool merchants. Wives and daughters were radiant with the wealth made out of the lives of men, women, girls, and boys who had the misfortune to be African and not Liverpool born. This commerce, so the local historians inform us, appeared to the eyes of the good people of Liverpool alike innocent and profitable. The sugar, and molasses, and rum, with a few spices and fruit, which constituted the bulk of the returns, had nothing at all of a repulsive character in their aspect, and the hardware, clothing, and provisions which were exported were equally harmless. The man-stealing process, the burning of villages, the trains of manacled fugitives, the horrors of the barracoon, and of the middle passage, never obtruded themselves into the thoughts of the polite circles of Duke street. Wealth increased, vast fortunes were made in a few years, and the town prospered. What more could be required?

Occasionally, however, "the best people" of old Liverpool received a rude reminder from some outsider as to the source of their riches. It is told that George Frederick

Cook, the actor, upon one occasion when too intoxicated to speak distinctly on the stage of a Liverpool theater, was greeted with cries from the boxes of the town magnates of "Apology!" "Apology!" With drunken gravity, Cook stalked to the front of the boards, looked the rich men and their dames in the eye, and said, with halting tones but the most withering contempt, "Apology from me to you? Why, there isn't a brick in your town that is not cemented by the blood of a slave."

Riches, one historian informs us, in the case of Liverpool, did not bring with them any measure of refinement. Down to a comparatively recent period bears were baited at the election of mayors. The ceremony was, perhaps, symbolical of the sort of life his Honor was likely to have of it during his year of office. Despite the brutality of these baitings, ladies attended in great numbers and joined in the procession to church afterward. On one occasion, not more than a century ago, a victorious bull was actually taken, with a halter of honor around his throat, by a party of biped brutes into the box circle of the Royal Theater.

It is not surprising that a race of men who delighted in this sort of sport should be rudely aggressive in any cause they espoused or opposed. An example of the rude chivalry of Liverpool may be found in the way they supported Queen Caroline through all her trials and tribulations. On the Queen's acquittal, it is said, there was a procession of 35,000 people in Liverpool. The church-bells were rung, the shippers displayed their flags, the multitude sang a version of "God Save the Queen."

"Great George, our King, incline
To smile on Caroline;
May all her cares be thine,—
God save the Queen."

At the theater the same spirit was frequently exhibited, and an artist who pleased an old-time Liverpool audience was as likely to suffer as much from their approval as from

their displeasure. To tear up the forms in the gallery and throw them into the pit was one of the playful forms of demonstration that more than once occurred in a Liverpool theater within the memory of those now living. This spirit asserted itself at the local elections, which were usually spirited, not to say expensive affairs.

XC.

LIVERPOOL—ENRICHED BY THE BLOOD OF SLAVES.

THE slavery that enriches the Liverpool of to-day is not so far removed from the city itself, and hence it is not surprising that the rich and fashionable prefer not to live within the sound of its bells. With the single exception of some parts of London, the poverty, vice, and squalor of Liverpool exceed those of any other English city. There are miles of streets in which the inhabitants seem to live in the most abject wretchedness. Walk down Scotland Road and many of the thoroughfares leading into it and you will meet the most repulsive, the most degraded, the most wretched-looking men, women, boys, and girls that can be found anywhere. The tenements in which these people live are shocking. It is not exaggeration to say that thousands of these nineteenth-century slaves occupy less space than is awarded a corpse.

Low public-houses, disreputable lodging-houses, and noisome dens of all kinds abound in these vile neighborhoods. The magnificent shops and showy equipages of Bold, Church, and Lord streets have indeed their contrast in the filthy dens, the poverty and misery, not to say vice, of Scotland Road and the lower quarters of the city. The industrial population of Liverpool is largely of the nautical class. Here we find, too, the prevalence of the representatives of unskilled labor, the poorest-paid labor in the kingdom. The city on the Mersey is the depot and the point of

departure of imports and exports, the principal labor employing what are called lumpers, cotton-porters, and carters. No technical skill is required in the industry, and this may in part explain the cause of the prevailing poverty. The statistics of the local government board show that pauperism, crime, and drunkenness prevail to a large degree in Liverpool.

Among the most degraded and poverty-stricken classes in Liverpool are to be found large numbers of women and young girls, generally without shoes or stockings, with ragged petticoats, an old shawl tied around their shoulders, and uncombed hair falling down their backs, carrying round for sale lumps of cooking salt, of soap-stone, of sand-bags for draughty doors and windows, and huge rolls of elaborately cut tissue-paper for pantry-shelves. The faces of these females only become less sodden and brutal by contrast with those of the men and boys who peddle various cheap articles, which they either carry round themselves or load on a huge cart with a tiny donkey, oftentimes covered with sores brought on by brutal treatment and insufficient food. Compared with this class in Liverpool the London costermonger is a sleek and well-to-do person.

Several important industries are carried on in this city, notably ship-building, and these industries seem to employ a sober and industrious body of men, whose wages are equal to those paid in other parts of the kingdom. Liverpool was once famous for its watches and its pottery. The former trade is of no great importance to-day in England, as France, Switzerland, and the United States have secured it. The pottery has long since migrated from Liverpool. A century ago several of the Liverpool potters had acquired honorable distinction in their art. The early earthenware made here was of the Dutch type of Delft pottery, with a coarse body and thick white or blue glaze; subsequently excellent china and porcelain were made. After flourishing for a considerable number of years the potteries of Liverpool began to decline, and at the beginning of the present

century but one remained. The growing prosperity of Liverpool developed itself in a different direction, and the enterprise which might otherwise have found occupation in this manufacture found more attraction and scope in foreign commerce. The inventive faculties and energy of the Staffordshire potters, led by Josiah Wedgwood, forced the industry into another channel, and the Liverpool manufacture declined as rapidly as it had risen. Indeed, it was to a Liverpool man that Wedgwood was indebted for the idea of printing on earthenware. John Saddler first made printed ware right here in Liverpool. It is said he saw his children stick waste prints on some broken pottery, and afterward invented the present process of transferring printing. Wedgwood sent his pottery to Saddler to print and thus secured the idea.

It is said of the gentlemen of Liverpool that they are ambitious of the reputation of dandies, patronize London tailors, etc. On the other hand, ladies' dresses are abundantly provided by local modistes, and it is only occasionally that costumes are procured from London or Paris. From what I have seen in several long stays in Liverpool, I can quite believe the statement in reference to the ladies. Nevertheless, Liverpool life is looked upon as showy. The ball-rooms of Liverpool are always excellent and enjoyable, and the invitations are restricted to dancers. The music and appointments are good. There is plenty of available room. The clubs endeavor to imitate the clubs of London. They are generally filled in the evening and there is plenty of card-playing and billiards. Temperance is evidently not making much headway in this city, as I quote the following from an English authority: "Wine-shades, bodegas, and saloons abound both above and under ground. If they do not result in much actual drunkenness, the amount of tippling to which they lead and wanton waste of time which they involve are deplorable. Twenty years ago the habit of drinking during business hours was comparatively unknown at Liverpool; now it is so common as scarcely to attract attention, and

certainly not to carry with it an adequate degree of stigma." I should hardly have ventured this latter statement upon my own observation of the business men of Liverpool. In the centers of the cloth region (especially Bradford) I have frequently had the whisky bottle set out in a manufacturing office at 10 and 11 o'clock in the morning; but this was in Yorkshire.

XCI.

ENGLAND'S SHIPPING INDUSTRY.

IT IS IN truth the stately river on which it stands that gives Liverpool its peculiar and in some respects unique position among the great towns of England. The forests of masts, the spacious docks, the grand ocean steamers daily dispatched from its harbors bound to all parts of the world, the constant arrival of ships laden with treasures, the stir and bustle of a thousand wharves, the incessant and audible throbbing in the machinery—connected with every quarter of the earth and every nation under heaven—these things are seen in Liverpool as they are seen nowhere else in England. Other ports, as the table I introduce below shows, are important and some of them nearly equal Liverpool in tonnage, but they all have their special trade. Liverpool alone covers the world:

Ports.	—With cargo and in ballast—	
	Vessels.	Tonnage.
Liverpool.....	16,225	7,550,948
Tyne ports.....	17,038	6,360,243
London	19,891	6,120,970
Cardiff.....	12,955	4,641,940
The Clyde { Glasgow.....	8,633	2,634,561
{ Greenock.....	5,192	846,685
Sunderland.....	9,228	2,616,095
Dublin.....	7,742	2,125,805
Hull	4,638	1,915,436
Belfast.....	9,310	1,803,262
Newport	9,810	1,778,745
Swansea.....	8,025	1,390,670
Bristol.....	8,946	1,186,836
Leith.....	3,550	957,266

I suppose there is nothing of the kind in the world equal in extent to the line of docks at Liverpool, presenting as they do a quayage to wet docks and tidal basins alone of twenty-two and one half miles, and a water space of 333 acres, and which, with land, sheds, yards, quays, and warehouses, cover an area of 1,040 acres. But these figures only apply to the Lancashire side of the Mersey Dock and harbor estate. On the Cheshire shore at Birkenhead there are docks with a water area of 164 acres, with nearly ten miles of quayage, thus making in all a water area of nearly 500 acres and a total quayage of thirty-two miles, in addition to twenty-two graving docks for repairing vessels, with an aggregate length of floor of 14,000 feet, the whole estate being studded with more or less imposing buildings, such as dock-masters' residences, customs and police depots, clock-towers, dock-yard offices, and so on, and on the Lancashire side traversed by a double line of railway five miles in length.

One of the first things Liverpool did on becoming a parish was to start a newspaper, the *Liverpool Courant* (1712). In one number of this paper (containing three days' news) the *Courant* mentions the circumstance of "one ship arrived," and of another "outward bound for Dublin." First a church and parish, second a newspaper, and the third enterprise thought necessary, and I suppose profitable, was a dock, and hence the system of floating docks, which I have above described, was commenced. It must not be supposed this enterprise was begun without opposition. The cheesemongers of London, who maintained a line of vessels which took in their cargo at Sloyne, vigorously contended against being made to pay dock dues for accommodations which they did not require. From this beginning the docks of Liverpool have steadily, and of late years rapidly increased, until the city of the Mersey stands like another Venice upon the waters; until the hundred small coasting vessels which at first annually came into the dock which the London cheesemongers opposed, has grown to 17,000 and even 18,000 of the

largest vessels afloat; until the few thousand tonnage has increased to 7,000,000 and 8,000,000 annually.

A writer unaccustomed, I suppose, to the daily tabulated statement has remarked, "One's breath is almost taken away when the cotton statistics of Liverpool are being read. Imagination sees the Pelion of it piled upon Ossa, and these upon Olympus, and the mountain still growing in height and breadth, and gold being coined out of it faster than the stamp could give it circulating value at the mint." But this was in the days when Manchester, three quarters of an hour by train from Liverpool, was supreme in manufacturing. Before continental European nations and the United States took to manufacturing on a large scale for themselves, the two eyes of Lancashire coined money. The annual transaction in cotton in Liverpool has of late years fluctuated between 3,000,000 and 3,800,000 bales, while the total imports for 1882, for example, reached 3,857,695, or nearly 75,000 bales a week. Between January and June, 1883, the weekly importation averaged nearly 88,000 bales, an amount of cotton if kept up for the year almost equivalent to the entire crop of the United States. Liverpool does a large trade with the United States, the total value of declared exports averaging annually from \$33,000,000 to \$40,000,000. The imports from America will average much more.

With the growth of Liverpool British commerce has grown and extended into every country in the world. Commerce and navigation have given England greater wealth than she ever could have extracted from her land and mines. Into the future of Liverpool or of British commerce we can not penetrate. What revolutions may yet come to pass, what may be the course of trade as new communications open, what new centers of merchandise may yet flourish, it is impossible to say. It does seem, however, that England is increasing her commerce at the expense of her agriculture and manufactures. Her land is going out of cultivation, her agricultural population is declining, her home manu-

factures are being displaced by foreign goods, which come into her ports free of duty, and she is annually mining more tons of her coal, smelting more tons of iron and steel, spinning more pounds of yarn, and weaving more yards of cloth for the same amount of money. The growth of British commerce of late years has been marvelous, but relatively speaking not greater or more remarkable than that of the United States. Here it is:

	Thousands of Dollars.		
	Imports.	Exports.	Total.
1355.....	195	1,470	1,665
1573.....	8,250	9,400	17,650
1614.....	10,705	10,455	21,160
1687.....	21,000	20,435	41,435
1714.....	34,250	40,040	74,290
1761.....	51,460	80,195	131,655
1801.....	157,100	184,650	341,750
1835.....	244,560	235,105	479,665
1855.....	668,600	579,110	1,247,710
1880.....	1,739,380	1,115,300	2,854,680

The excess of imports over exports continues to increase at an alarming rate. The new school of economists say this is a sure sign of prosperity. There are those in England who differ on this point, and declare that England is living on her capital. However this may be, it is undoubtedly true that England imports many manufactured articles that she ought to make at home. It has been calculated that the aggregate amount of value of the ten principal manufactures (silks, gloves, cottons, woolens, iron and steel, boots and shoes, clocks, watches, pig and sheet lead, and tanned leather) imported into the United Kingdom free of duty for ten years is \$1,400,000,000. These goods England could just as well have made herself. I am unable to see how a system which encourages the importation of goods which a nation can just as well manufacture itself promotes the welfare of producers.

But the great idea which Liverpool symbolizes is commerce. From her mighty port the grandest steamers and the veriest ocean tramps sail to the most distant lands, and

to her mighty port they return laden with merchandise of every description. There is no part of the habitable world that cannot be reached from Liverpool. She is connected with New York by a fleet of magnificent steamers which move almost with the regularity of trains. They may well be called trunk lines connecting the two countries. The building of these ocean steamers and the ship-yards of Great Britain will afford a topic for the next letter, especially as I have nearly completed a tour of the principal ship-yards. Any account of British commerce would be uninteresting with Liverpool left out, and if we have dipped into the historical in this letter the importance of the subject deserves it.

XCII.

NEWCASTLE-ON-TYNE—“CANNY” BUT “COALY.”

IN the letter from Liverpool I gave some idea of the importance and growth of British commerce. In the present letter an attempt will be made to show the importance not only of a merchant marine, but of the ship-yards to build one. I have personally visited the principal ship-building districts in the last two weeks, including the Clyde, the Wear, the Tees, Hartlepool, and Barrow-in-Furness, and now I am in ancient Newcastle-on-Tyne. Perhaps this letter should have been written at Glasgow, as that is the most important district. The only excuse for not doing so is that the valley of the Tyne has not had so many gleaners, and to me at least Newcastle remained comparatively an unexplored field. John Wesley once wrote of Newcastle, “Certainly, if I did not believe there was another world I would spend all my summers here, as I know no place in Great Britain comparable to it for pleasantness.” Rowe, who visited the place one year later, thought that some-

what exaggerated praise for "canny" but still "coaly" Newcastle, so far at least as the atmosphere is concerned. But Wesley seems to have forgotten that on the Sandhill the Newcastle mob would have murdered him had not one of the Newcastle fish-wives affectionately embraced the diminutive but dauntless evangelist, brandishing meanwhile the clenched disengaged moiety of her "Ten Commandments," and exclaiming defiantly, "Touch the little mon noo if ye dare, ah!" "In Sandgate," writes Wesley, "after preaching, the poor people were ready to tread me under foot out of pure love and kindness." But the goodly fish-wife was not the only Newcastle woman who played the part of a man.

During the early part of this century all the bricklayers' laborers were women. Without fear or hesitation they used to climb the highest buildings, carrying heavy loads of brick and mortar upon their heads. They also acted as carriers to the butchers, and on market days could be seen with half the carcass of a freshly killed bullock quivering on their shoulders. Newcastle was once famous for female barbers, and some of them made both fame and fortune. They plied their occupation in the open air on the Sandhills, having a portable stove to heat the water.

In spite of the multitudinously malodorous murk that overbroods the town and neighborhood it is picturesque, and for that matter so is Pittsburg. But then the center of smoke and flame in the United States is modern. Ancient and modern Newcastle come into sharp and piquant contrast, hard by the elliptical railway arch. St. Nicholas' flying-buttressed steeple is incongruously grafted on the arch, and the bulging old houses of the Side and the Sandhill look like jolly old burghers lounging in dingy shirt-sleeves, with modern dudes superciliously scrutinizing through their eye-glasses in juxtaposition with the prim plate-glassed piles of offices the expansion of the town's trade has caused to be their neighbors.

Coal lies at the bottom of the wealth of Newcastle, though, as we shall presently see, man has done much to make the

mouth of the Tyne what it is. For miles both banks are lined with ship-yards, with smoky factories, and most excellent docks. Here is a picture of a trip, say from Blaydon to North and South Shields. The population along the river from these points, including Newcastle and Gateshead, must number 500,000. A jumble of smoke-dried brick and stone works, of new brick works, fast blackening, of huge sheds, of colliery starths rattling black avalanches of coal down hinged shoots or dropping coal trucks from giddy heights through the traps, rises above the shipping on either hand. Cranes swing yellow water cascades into the river, fire-glowing steam engines send out angry white puffs, chimney stalks pour out black coils, machinery clanks, tools rattle with a ceaseless, savage energy. There are foundries, fort-like blast furnaces, torrid puddling forges, whirring, rattling rolling-mills, chain and anchor works, lead works, copper works, plump coned glass works, potteries, chemical works, fetid manure works, grindstone wharves, saw-mills, oil-mills, cement works, Bessemer steel plants, brick works, coke ovens, patent slips, iron and wooden shipbuilding yards, graving docks, timber docks and docks crammed with shipping of every flag, for the Tyne stands second only in importance as a port to the Mersey.

"But what we are chiefly concerned to see," says Escott, "in this coal-blackened antique Northumbrian capital, with its immemorial past and its infinite future, its old buildings, venerable churches, hoary traditions, its inventions, improvements and devices of yesterday, its busy plottings and cunning contrivances for to-morrow, is the influence exercised by science upon the course of the river." The Tyne is no longer the stream which nature made it; its bed is deepened; its channel changed. Headlands and promontories have been removed and millions of tons of soil have been uplifted from its depths in order that ships of heavy burden may float up to the walls of the town. The width of the river has been increased from 150 to 400 feet. A point seventy-five feet above high water—which prevented those in

charge of vessels from seeing vessels approaching on the inner side—has been cut away. The docks have been enlarged and a new one with an inclosed water space of nearly 100 acres, surrounded by 3,650 lineal feet of deep water quays, has been built. In consequence of these improvements, in twenty years the average tonnage of vessels has risen from 149 tons to more than 500.

The principal seats of the ship-building industry in Great Britain may be said to be the Clyde, the Tyne, the Wear, and the Tees. Here in 1883 (the most prosperous year in British ship-building) 928,562 tons of ships were built. With the single exception of Hartlepool, which produced in 1883, 67,065 tons, there were individual firms in the four principal districts who built more tons of ships than the total output of the other points. At Whitby, in addition to the above, were built 13,662 tons; at Hull, in 1882, 19,542; on the Mersey, 44,212; Barrow-in-Furness, 16,937; Whitehaven, 9,262; Workington, 4,220; Southampton, 34,331; Dundee, 24,386; Leith, 16,251; Aberdeen, 11,628; Grangemouth, 4,644; Kirkcaldy, 8,983; and Belfast, 41,111. Outside of the four principal districts and Hartlepool, I have given the figures for 1882, as the returns show a great falling off both for 1883 and 1884, sinking in some cases to practically nothing. Of course, depression in the trade is felt first by the smaller yards, and hence while production in the scattering shipyards was greatly curtailed between 1882 and 1883, the shipyards of the north reached their highest output in 1883. When in London last week, I had an interview with Mr. T. S. Jeans, Secretary of the British Iron Trade Association.

“Last year,” he said, “was one of perpetual gloom for British ship-builders, unless indeed it should be overshadowed by 1885.”

“What are the exact facts?” I inquired.

“There were,” said my informant, “373,898 tons of iron and steel shipping in hand on the first day of this year, against 729,446 tons for the corresponding day in 1884, while 1882 opened with 1,264,603 tons in course of building.”

The following table, which I obtained from Mr. Jeans, gives the tonnage of shipping launched for the two years at the ports named:

	1884.	1883.	Decrease in 1884.
Clyde.....	296,854	419,664	122,810
Tyne.....	124,221	216,573	92,852
Wear.....	99,589	212,313	112,724
Hartlepool.....	30,963	67,065	36,102
Tees.....	30,336	81,795	51,459
Dundee	12,062	25,276	13,214
Leith.....	5,500	13,722	8,222
Totals.....	599,525	1,036,408	436,883

Going back six years, it appears that the first of the above ports, which furnish, as I have already shown, over 80 per cent of the total, give the following figures

Year.	Gross Tonnage launched.	Year.	Gross Tonnage launched.
1879.....	462,238	1882.....	945,919
1880.....	597,905	1883.....	997,410
1881.....	781,053	1884.....	587,463

A sudden decrease from nearly a million tons to less than 600,000 tons. Yet free-traders calmly inform us that these sudden fluctuations from periods of great activity to periods of gloomy depression, from the days of tremendous profits to days of no profits at all, are peculiar to protective countries. Only the other day, when at Middleborough, I was told that Bolckow, Vaughn & Co. dropped from a dividend of 15 per cent and a share to its stockholders to a dividend of $2\frac{1}{2}$ per cent; and of another great British iron firm suddenly coming down from a dividend of 32 per cent to nothing.

XCIII.

WILL FREE-TRADE NEWSPAPERS COPY AND EXPLAIN ?

FREE-TRADE newspapers please copy and explain how this is possible under free trade, which, according to your theory, is the great industrial balance-wheel regulating trade and manufactures.

Let us go a step farther and see how this decrease in one year of nearly half a million tons of production has affected the labor. In 1881 the total number of hands employed at the ship-building trade of the United Kingdom, according to the census was 72,000, equal, Mr. Jeans informed me, to about fourteen tons of new shipping per man per annum. Assuming the same average, he estimated that 88,600 men were employed in 1882, and 94,900 in 1883, which I have shown was the most profitable year. In 1884 the number decreased to 59,200, a falling off of 35,700 hands. The effect of this has been both sudden and appalling. Thousands have been obliged to seek relief from the parish, while idle and half-starved men may be seen in vast numbers loitering in the public squares of the ship-building centers. Here at Newcastle the only busy establishment which I visited in that dark row of gaunt sheds on both sides of the river was the place where the implements of destruction that annihilate armies—the Armstrong cannon—are forged.

I see that some of our friends in the United States want to make out that things are worse at home than here. I doubt if they can show a more sudden dive from the pedestal of prosperity to the gulf of gloom than this of the British ship-building industry; and I know that they can not show such a steady and disastrous decline in any protected American industry as that presented in the letters on the rise and decay of the British silk industry. And if they still persist in the fallacy that free trade is a sort of com-

posing draught, keeping the vast industrial system of a country from a feverish condition, I will send a table of dividends paid in the iron and steel trade a year or so ago, and now, that may surprise those who have been led to believe that sudden changes of this sort only come to protective countries.

England is already feeling the effect not only of the dull times in the ship-building trade, but of foreign bounties. Should Germany pass the merchant marine bounty bill, and should the United States decide to extend to our shipping industry the same protection which it has given to all other industries (as proposed by Senator Don Cameron, of Pennsylvania, in a recent speech), England may never again reach the product of 1883. I quote the following from the last issue of the London *Shipping World*:

“At the present time there is an iron boat running on the Thames which was built under English supervision in a Continental ship-yard, and one of our leading ship-building firms has started a branch establishment in Norway in order to gain the advantage of lower prices and more tractable workmen.”

Exactly what has been done in the silk industry, in the worsted industry, in the woolen industry, in the flax industry, in the jute industry, in the cotton industry, in the iron and steel industry, and in nearly every other industry. England stands near at hand with wide-open ports for surplus stocks made by foreign instead of native workmen, while the British workman stands idle in the market place. The *Shipping World* further remarks:

“It is hoped that no such disaster will ever overtake this country, and that the Thames vessel referred to, and the Norway yard, may not prove the beginning of the end. It may, no doubt, be premature to say it is so yet, but the facts are, nevertheless, worth noting.”

At Armstrong's works yesterday I was told by Commander Hubert Grenfell, of the Royal Navy, that the establishment of a gun factory by that firm in Italy was a settled

fact, and that it would probably lead to the building of a ship-yard also. At least 80 per cent of the labor to be employed are to be Italians.

What does this mean?

Another customer lost to Great Britain, and probably in time additional surplus stocks from Italy to displace British labor.

At Barrow I met Mr. William John, having been furnished with a letter of introduction to him by Mr. Charles H. Cramp, of Philadelphia. Unfortunately the dullness of the shipping trade has almost closed the Barrow works, though the day of my arrival the contract was closed for two new ships second only in size to the City of Rome, which was built in this yard. I found that Mr. John had recently been investigating the subject of the prospects of steel ship-building. In 1879 he said the total tonnage of steel ships was not over 22,000; in 1880 it reached to 38,000; in 1881 to over 70,000 tons; in 1882, 128,000; and in 1883 to considerably over 150,000. Last year I find the figures for steel ships as follows:

SUMMARY OF STEEL VESSELS.

	Number.	Tonnage.
The Clyde (about).....	128	131,128
The Tyne.....	18	10,564
Various districts.....	29	22,337
 Total.....	 174	 164,029

The total percentage of tonnage of steel to iron for the years named are respectively 4.38, 7.26, 9.79, 14.0, 15.37, and more than 25 per cent in 1884. The tendency as we have seen is in the direction of steel for material in building ships. In the matter of speed the Alaska and Oregon still lead, though the Etruria and Umbria, two remarkable Cunard steamships to come into service this year, constitute an epoch in the history of ship-building, and give considerable justification to the belief sometimes expressed that the proportions of the Great Eastern will in time be surpassed. These two

vessels will each be of 8,000 tons burthen, 500 feet long and 57 feet broad by 40 feet depth of hold; engines of 13,000-horse power, which it is computed will drive the vessels at a speed of not less than nineteen knots an hour. The trans-atlantic passage will thus be reduced to six days, if not indeed considerably under that period. But this involves the building of two classes of vessels, one for passenger traffic and the other for the conveyance of cargo. The future Atlantic ship will be a vessel which shall have large passenger accommodation and a high speed, with a comparatively small first cost and a reasonable consumption of coal.

I can not close this bird's-eye view of British ship-building without a word about the other shipping districts. Like Newcastle, Glasgow has been made a shipping center. The shrewd, far-seeing Scotchmen practically brought the sea to Glasgow. Had it not been for this, instead of the second commercial town of the kingdom, the Scotch metropolis would have been a mere inland provincial place. The Clyde has been deepened and widened at a cost up to 1883 of \$50,000,000—no inconsiderable sum. But it has paid. But for the deepening of the Clyde ship-building above Dumbarton would have been impossible. The *Comet* of 1812, although engineered in Glasgow, was built at Port Glasgow. Now, the majority of the yards are within six miles of Glasgow, five, including that of Napier & Son, being within the precincts of the harbor, and the largest of all (the yard that produced the *Arizona*, *Alaska*, *Oregon*, and later the *Etruria* and *Umbria*), John Elder & Co.'s, within sight thereof.

During the years 1871, 1872, and 1873 the output from the Clyde yards averaged 50 per cent of the total shipping produced throughout the United Kingdom. That high proportion fell for the years 1874, 1875, and 1876 to as low as $37\frac{1}{2}$ per cent. In 1882 the Clyde's contributing to the grand total did not exceed $32\frac{1}{2}$ per cent. It has remained at this proportion.

Whether it was the river Wear that made Sunderland,

or Sunderland that made the river Wear, may be difficult to decide; but certain it is that not one of the maritime boroughs has had a harder, a braver, or a more protracted struggle than the town at the mouth of the Wear in seeking to overcome the obstacles with which nature has incumbered its path. The year 1863 may be described as the opening of the age of iron on the Wear, 17,124 tons of shipping having been launched. The increase was rapid and continued until in 1883, when 207,254 gross tons were built. Sunderland has been termed the most American town in England. In growth and enterprise this may be true, but in appearance I must dissent. The streets are as narrow as Yarmouth rows. The people of Sunderland are certainly engaged in trying to push one another out of the road. Except Washington street, Boston, I know of no place in which life is made up of so much shoving and pushing as in Sunderland.

In the several other districts, of course, ship-building is carried on to a considerable extent. Barrow-in-Furness, though doing little or nothing now, is likely I think to advance. The Clyde, the Tyne, and the Wear have reached their highest point. Belfast occupies a prominent position, not alone because of the large annual output of tonnage, but by reason of the number of high-class ocean steamships which have been and continue to be built there. Dundee, Leith, Hull, Southampton and other places throughout the United Kingdom are not without claims to recognition as ship-building points—but this letter has already exceeded its limits.

XCIV.

WORSTEAD—A SPECIMEN OF MEDLÆVAL HUMANITY.

ONE of the most joyous English spring days I ever experienced is just closing. Seated in the neat parlor of a quaint

old inn, whose grotesque gables, thatched roof of ivy-clad walls, and picturesque appearance bear traces of a touch from the hand of other ages, I shall attempt to give an account of a visit to an English village which is probably entirely unknown to Americans. The floor of the room I occupy, white from regular scrubbing, is sprinkled with silver sand. The large range is as black and shiny as black lead and elbow grease can make it. A number of prim-looking modern mahogany chairs are placed at painfully regular intervals around the room, obtruding their machine-like nineteenth century origin among the antique surroundings of the middle ages. The window of the room consists of small diamond panes of glass held together by a frame-work of lead, and from this window may be seen pretty much all that remains of the ancient town of Worstead, now a decaying, silent village, but once a vigorous, thriving center of the worsted trade, famous alike for being the first place where the manufacture of worsted was carried on and from having given the name to one of the most important of all textile manufactures.

I arrived here early this morning from Cromer, an old watering-place on the eastern coast of England, or rather, to be more accurate, of what is left of Cromer, for every now and then a slice of Cromer has the bad taste to slip away and is buried in the sea, and when the tide is low the walls of the ancient church of Cromer peer up from the surrounding water, half a mile from land, like a grim specter of the deep. Ancient Worstead itself is a couple of miles from the modern station of that name.

The walk is through a lane shaded by high hawthorn hedges and oak trees and across green meadows. The sun shone brightly, the sky was a hazy blue, the birds were singing delightfully, and the fragrance from the budding trees, the fresh grass, and endless varieties of wild flowers greeted me as I took the road to walk to Worstead. The scene was enchanting. On either side a hedge fifteen feet high with a grassy base, profuse with primroses, daisies,

bright yellow plantagenet, and here and there peeping forth violets white and blue. Then came the hedge of budding hawthorn and dark green holly, entwined in every nook with rich ivy, and every rod or so sturdy oaks, the trunks of which were likewise ivy-clad. In the distance were the delicate outlines of the place where wool was first manufactured in England, as early as the reign of Henry I. (1100 to 1135). The magnificent church, with its flying buttresses, high tower, fine battlements, and elaborate pinnacles, one of the finest in England, and upon which in early days, when a lucrative business was done here, immense sums of money must have been lavished, is the most striking object.

There is a sort of conscious antiquity about the village which one feels on entering it. The little rows of cottages, the window-sills of the second story of which I could—though only 5 feet 8—touch with my hand, in spite of coats of modern plaster over their flint walls, were once occupied by Flemish workmen and resonant with the spinning-wheel and hand-loom. Here the Flemish dames obtained worsted yarn by the rude and primitive method of spinning on the rock, that is, the simple distaff of the ancients. The occupation in England then was as it is now in many parts of the Continent, notably Crefeld, Germany, a domestic one, scattered among the rural population of the county, forming the house labor of mother and daughters.

In a field near by formerly stood what the villagers here call the “old church,” last used in 1222: the new edifice (finished in 1320) I have already described. This church has had a continuous line of vicars from Johannes de Gummer, who flourished in 1256, to the present modern incumbent. In one of the modern houses, probably a couple of centuries old,—for the most fashionable houses of Worstead of the present day are old enough to have been occupied by Cromwell’s troops,—was found Mr. John Starling, clerk of the parish, poet, and historian of Worstead.

Quaint as Worstead with its many-gabled houses is as a specimen of mediæval architecture, Mr. John Starling as

a specimen of mediæval humanity was several degrees quainter.

“A gentleman from Philadelphia interested to learn something about the town where woolen goods were first made in England, and from which worsted goods derived their name,” I announced as the venerable clerk opened the oak door of his early English residence.

The village historian and parish clerk was a small man, to use his own oft-repeated words, “nigh onto eighty years of age,” who had spent his entire life at Worstead, and whose wife, a hale old lady of eighty-three, in the background, was the oldest inhabitant of the place.

“Yes,” said this latter fine old specimen of Norfolk longevity, “father can tell you all about the Flemings and about Worstead as it used to be. Why, he has worked eleven years at his history, early and late.”

“For three and fifty years,” chimed in Mr. Starling, “I have been clerk of the parish;” and then turning affectionately and admiringly to his worthy spouse, he broke out into poetry—

“There is one thing I’m proud to say,
We’ve had our golden wedding day.”

“I am told at the inn you are something of a poet, Mr. Starling?”

“I do a bit in that way sometimes,” he replied, and the antiquated clerk then proceeded to give me while I stood in the neat parlor a brief account of his life in rhyme. Coming from a dried-up little man who for half a century had said Amen in the self-same place on each succeeding Sunday, who had tolled the bell for the village dead, and during the whole of that period looked serious at every christening and added solemnity to every marriage, the effusion sounded droll enough. Here is a specimen:

“Hundreds of christenings I have seen,
At many marriages have been;
The saddest tale I have to tell—
More oft I tolled the funeral knell.”

Again, speaking of his domestic life:

“ We have toiled hard, but got no wealth,
But thankful we are both in health.
We lived together it appears
Exactly three and fifty years.”

Having completed the history of his life, the old man suddenly said:

“ Do you believe in figures ?”

Not quite understanding what he meant I ventured:

“ Of course I do.”

“ Well,” he quickly responded, “ my figure is four; yes, four. I have lived in four reigns; have tolled the bell four times for the royal family; have lived under four bishops, four vicars, four curates, and four church wardens. Then, again, I have buried four church wardens, four servants from the hall, four parish clerks, and four Sunday-school teachers. During my life there have been four different village postmasters, four glaziers, four carpenters, four carriers, four blacksmiths, four tailors, and four shoemakers. I have taken the census of Worstead four times, and I could give you a score more reasons why my figure is four. Curious, is it not ?”

I found that this quaint old man, with his doggerel and queer numerical conceits, had actually written an elaborate history of Worstead and its early trade; that he had carefully stored away in the vestry of the church every stone and every curiosity found in the neighboring district, until he had a small museum of antiquities. His history he had himself copied in a copper-plate hand into a large folio of many hundred pages, and had profusely illustrated it by creditable drawings of his own. I spent several hours with this book, much to the delight of Mr. Starling, and from what I obtained therefrom and from some other sources I am enabled to present the first part of our account of the worsted industry. The data for the second part, which will be largely

statistical, will of course emanate from Bradford and Halifax, in Yorkshire.

It is, I think, a well-established fact that the Flemings who were so skillful in the productions of the loom that it was said of them the art of weaving seemed to be a peculiar gift bestowed upon them by nature, originally settled in Worstead, and thence found their way to Norwich, commencing the great staple manufacture of that city, which made it at one time second only in importance to London itself. By the latter end of the reign of Edward I. in the fourteenth century, the worsted stuffs of Norfolk had become famous. One of the principal reasons for the trade seeking the eastern counties was that Norfolk was the great wool-growing county of England. Norfolk wool had been sent to Venice long before the Flemish had become famous for their textile goods. Later Norfolk supplied the Dutch with wool, for Old Fuller, wise and witty, in commenting on the institution by the Duke of Burgundy of the Order of the Golden Fleece, "wherein, indeed, the fleece was ours, the golden theirs, so vast their emolument from the trade of clothing."

XCV.

ENGLAND'S PROTECTIVE POLICY.

THE history of worsted undoubtedly shows that cloth-making flourished in Norfolk long before the time of Edward III. (1327-1377), though not a few historians credit this monarch with introducing the industry. What Edward did do was this: He extended and gave encouragement to an industry which his sagacity enabled him to see was of vast importance to his subjects. His marriage to Philippa, the daughter of the Earl of Hainault, whose subjects were excellent cloth-makers, enabled the king better to appreciate

the importance of this industry and prompted him to invite hither a large number of the most skillful workers.

The invitation was extended in the same manner as the United States now extends invitations to the nations of Europe to send their most skillful artisans. Edward, it is needless to say, was a protectionist. In the quaint language of his times he told the skillful Flemings that his people were "as yet ignorant of the art of cloth-making, knowing no more what to do with their wool than the sheep that wear it; and as to any artificial and curious drapery, their best clothes are no better than frieze, such their coarseness for want of skill in their making." The Dutchmen of the period were pictured as bemoaning their slavish lot; whose masters treated them more like horses than men, "early up and late in bed, and all day hard work and harder fare (a few herrings and moldy cheese), and all to enrich the churls their masters, without any profit to themselves."

If they came to England, what welcome awaited them! They should be fed on fat beef and mutton "till nothing but their fullness should stint their stomachs." They should share the profits of their own labors, and the "rich yeomen of England would not disdain to marry their daughters to them, and such English beauties." Thus tempted, the Dutch servants left their old masters and sought refuge in Edward's domains, bringing with them their trade and their tools. Soon after the arrival of these foreigners Norwich became the most flourishing city in all England by means of its great trade in worsteds, fustians, friezes, and other woolen manufactures; "for now the English wool, no longer sent to Italy and the Netherlands, there to be manufactured, being manufactured by English hands, an incredible profit accrued to the people by its passing through and employing so many sorters, combers, carders, spinners, and weavers." Norwich at that time had a population of 70,000 within the walls—an enormous multitude for the age—and in the surrounding district not less than 150,000 were employed in this the greatest manufacturing industry of the kingdom.

But how was the industry brought into this channel? By the most stringent protective measures. In 1337 Parliament enacted—

1. That it should be felony to transport any wool of English growth beyond the sea until it be otherwise ordained.
2. That all foreign cloth-workers should be received from whatever parts they came, and have privileges allowed them.

This was the sort of protection that laid the foundation of England's industrial greatness. Before the close of Edward's reign the textile manufactures, and especially the branch under consideration, had reached, compared with the circumstances of the age, a mighty growth. The worsted productions of the fourteenth and fifteenth centuries were undoubtedly very fine. Garments of Norfolk cloth and beds of Norwich stuff are mentioned in the wills of the period. Bed hangings were made of worsted, and as the best mansions were then mostly unplastered, the bare walls were either covered with tapestry or other woven material. Large quantities of the goods were exported from the ports of Yarmouth and Lynn in Norfolk, and Boston in Lincolnshire.

XCVI.

IN PETTICOATS OF STAMMEL RED.

IT is impossible within the space at command to follow this industry through all its vicissitudes. I have searched in vain among the old books in the Norwich Library to find some accounts of the society of those times. There is enough of the old city left with its narrow, winding streets and antique buildings to picture it, but of the thousands engaged in making yarn, of the real workers, we know but little. I find an allusion in an old book to one wealthy manufacturer of worsted, who in Henry VIII.'s time is said to have employed 200 maidens in spinning wool, who worked together in a

chamber, or, as we should now term it, a factory. They are thus noticed:—

“ And in a chamber close beside,
Two hundred maidens did abide
In petticoats of stammel red,
And milk-white kerchers on their heads.”

A quaint picture, this, for an artist. How unlike the factory girls of Bradford, the present seat of the British worsted trade! Beauty it was once said had in Norfolk a native home; and Beauty's daughters still abound in old Norwich. What wonder then that the factory girls of ancient date were graceful and fascinating in their red-worsted petticoats and kirtle or jacket, with a white kerchief thrown over their heads! In the general upheaval of society that followed the reformation the trade of Norwich suffered. The general distress and want of employment by the poor spinners was zealously fanned by the hundreds of ejected monks, and attributed to the destruction of their monasteries and the reformation. This led to a rebellion in textile districts, which was only suppressed after 5,000 of the rebels were slain and the leader Ket hanged. Trade was almost ruined, and the busy center of manufacture became the resort of the idle and dissolute.

On the accession of Elizabeth to the throne a new era commenced. The Protestant refugees from the Low Countries and France came to England by thousands, and by an actual count in 1582 it was found that nearly 5,000 settled in Norwich alone. The Queen, as “the Protectress of the Reformed faith,” and I suppose with an eye to extend the weaving handicrafts of her dominion, encouraged these foreigners. The trade of the town with many spires began to revive, and in the wonderful pageant when the Queen herself visited the city the principal branches of worsted manufacture were illustrated, a “shewe which pleased her Majesty so greatly, as she particularly viewed the knitting and spinning of the children, perused the loombes, and noted the commodities.”

At the beginning of the eighteenth century Norwich had reached the position of the chief seat of the chief manufacture of the realm. It was distinguished for the opulence of its manufacturers and its merchants, the grandeur of its buildings, and its high tone of refinement. The Norwich weaver obtained high wages for the times. He produced the choicest textures; he and his family were well clothed and well fed, and also above the ordinary rank in moral and social worth. The workpeople of Norwich were proverbial for the neatness and cleanliness of their houses, as well as for their intelligence and industry. Manchester at that time contained 6,000, and Leeds less, while Bradford was an unknown Yorkshire village.

XCVII.**A BITTER FIGHT.**

THE manufacturers of Norwich in the first part of the eighteenth century occupied in wealth and power a position similar to the manufacturers of Manchester a century later. And they used it in a similar way. The Norwich manufacturers subsidized Sir Robert Walpole, as the Manchester manufacturers afterward did Cobden. By the assistance of the Prime Minister they enacted a law to altogether repress the use in England of calicoes printed either at home or abroad. This act was passed in 1722, and decreed that none should wear in Great Britain any printed, painted, or stained calico under a penalty of £5, and that after this time no such calico should be used as furniture. The Norwich idea was to make that city the great worsted and woolen center of the realm; the Manchester idea was 100 years later, and is to-day to make Manchester the great cotton center of the world, and to crush out all opposition. Both have failed. Manchester, against which city the opu-

lent Norwich manufacturers obtained their foolish decree, began to flourish and grow faster than ever; while, on the other hand, the Manchester manufacturers who paid Cobden \$1,000,000 in hard cash to secure for them the markets of the Continent and the United States have lived to see the population of their city steadily decrease and the cotton industries of hostile nations expand as they had never done until the one-sided system of free trade was introduced.

In the struggle against Manchester Norwich was frustrated. The statute was evaded in various ways, and the "Manchester men," having with their town and trade risen into importance and wealth, had sufficient influence in the councils of the nation to obtain favorable legislation. Norwich, defeated in its efforts to obtain favorable legislation, determined to compete with Manchester in the cotton industry, but altogether failed. Failing to compete in a cheap line of goods, Norwich manufacturers turned their attention successfully to the finest worsted goods, and sought foreign markets. There were no dyers and finishers in the kingdom equal to those of Norwich. Worsted textures were forwarded thither from all parts of the kingdom to be dyed and finished. By the close of the eighteenth century Norwich manufacturers had become merchants as well, and traded to the Baltic, to Germany, Holland, Spain, and Portugal, and through them to the great markets of Brazil and South America (then at the acme of their glory), to Italy and China by the India Company. These were the palmy days of Norwich. Every weaver of any consequence had his goose or some equivalent for Sunday dinner. The young bloods of the town were educated in foreign languages and travel, very much as the young men of Liverpool are at the present time.

I have shown in this letter how from the old Norfolk town, from which I write, this important industry started at a very early period and obtained its name; how the manufacture increased and spread, Norwich becoming the seat of the trade, and occupying in its day a position not

inferior to Manchester at the present time. From this period of opulence the trade seems to have declined, and at the commencement of the present century the ascendancy of Norwich as the chief center of the worsted trade began to decline. The development of the factory system in Yorkshire, in addition to the lowness of wages at that time in the northern part of England, tended to transfer to the north the coarser kinds of goods, and finally the other branches followed the changed condition of the trade. In those days, compared with the Norfolk weaver, the weaver of Yorkshire presented many points of contrast. Frugal and industrious, sustaining himself and family principally with oatmeal porridge, oat bread and milk, sparingly partaking of butcher's meat, the latter could and did labor for wages much below those of the eastern and southern counties. The Norwich workers also were slow to adopt machinery. Thus arose the worsted manufacture of what has been termed the Apennine region of England,—Bradford, Halifax, Keighley, Colne, and so on.

XCVIII.

NORTHAMPTON—ST. CRISPIN'S TRADE.

“**THERE** is nothing,” says Sir Charles Bell, “more beautiful than the structure of the human foot, nor perhaps any demonstration which would lead a well-educated person to desire to know more of the anatomy than that of the foot. The foot has, in its structure, all the fine appliances you see in a building.” The town I write from has for centuries been the head center for the coverings of these marvels of delicate mechanism—of countless millions of feet. Here are made boots and shoes of all kinds, from the clumsy foot-gear of the veriest bog-trotter to the coverings of “the

human foot divine" that has formed alike the subject of the poet's strains and of the shoemaker's skill:

" Her pretty feet
Like smiles did creep
A little out, and then,
As if they started at bo-peep,
Did soon draw in again."

How often—and I appeal to my lady readers now—have the tender memories of the past been brought up by a sudden glimpse of little shoes, the relics of childlike forms, and the memory of "tiny feet!" The grace, beauty, and harmony that we see in these little feet, I am told, would continue through life if it were not for the cramped and unnatural coverings of modern times. The ancient sandal was by far the wisest covering ever devised, and man himself has done much to destroy the beauty of the foot. No record has been kept of the man who laid the foundation of the trade of Northampton by first adopting a covering for the foot. The following would indicate that boots of some kind were used in the work:

" When from the ark's capacious round
The world came forth in pairs,
Who was it that first heard the sound
Of boots upon the stairs?"

To which a Northampton shoemaker promptly replied:

" To him who cons the matter o'er,
A little thought reveals,
He heard it first who went before
Two pairs of soles and 'eels."

There is poetry, and pathos, and wisdom, and wit enough in the history of shoemaking for a volume in itself. And the least interesting part of it would not be the disciples of St. Crispin, for many of them have been famous in war, in politics, in law, in arts, letters, theology, science, and in poetry.

“The Crispin trade! What better trade can be?
Ancient and famous, independent, free!
No other trade a brighter claim can find,
No other trade displays more wealth of mind,
No other trade prouder names can boast
In arms, in arts—themselves a perfect host!
All honor, zeal, and patriotic pride:
To dare heroic, and in suffering tried.”

The number employed in the manufacture of boots and shoes in England, owing in large measure to foreign tariffs and free importations into Great Britain, is steadily declining. The number of bootmakers in the United Kingdom in 1861 was one for 103 inhabitants, and in 1871 one for 126 inhabitants. In 1871 the census returned the number employed in the industry as 235,477; in 1881 as 216,536, a decrease in one decade of 18,841 persons. Unlike the iron, the cotton, the woolen, the worsted, and the silk industries, the industry of making boots and shoes is scattered throughout the kingdom. Every town, every village, and every hamlet has its shoemakers, and hence, though the total number employed exceeds 216,000, the manufacture is in no place concentrated as those industries just mentioned. It forms the chief manufacture of two towns—Northampton and Norwich—and one of the chief industries of Leicester. Of the total number of shoemakers in the kingdom the counties of Northampton, Leicester, and Norfolk employ, according to the census of 1881, 50,000, divided as follows: Northampton, 25,000; Leicester, 17,000, and Norfolk 8,000. Northampton may be said to be the center of the heavy trade (that is, chiefly men's), Leicester the lighter goods (the product being mostly women's), and Norwich miscellaneous.

It is proposed in this letter to deal with the social condition of the workers of Northampton, as the most important boot and shoe town of the kingdom, and as typical of the present condition of the trade. At the same time, further along, will be given a table showing the rates of wages paid in a Leicester shoe factory. Northampton has a rare his-

tory. It was once a walled town not unlike Chester. Conquering William gave it and the surrounding country to Waltheof, a noble and valiant Dane; but, unhappily for Waltheof, he was compelled to take with it William's niece, the vixenish Judith, who soon after betrayed her husband to the Norman, and Judith became a widow and Northampton had no owner. William next commanded Judith to marry his old blacksmith knight, Simon de St. Liz. Judith demurred because the noble Norman was lame, but her daughter offered to accept him, and Simon gladly enough married the substitute, built him a castle, a round church, and sundry other edifices, the remains of which may now be found at Northampton, or, at any rate, in the Guide to Northampton, for the Northwestern Railway Station occupies the site formerly occupied by Simon's castle, and the stones nearly two centuries ago found their way into old Dr. Doddridge's famous nonconformist's chapel.

XCIX.

ANCIENT AND MODERN SNOBOPOLIS.

IN its day the old castle was famous. Robert and Henry, the sons of England's first Norman king, met here and tried to settle their differences; but Henry, the colder nature of the two, muttering to himself, turned away from his brother with no answer. Here, too, Henry II. tried to patch up matters with his barons, and with Beckett the gallant Richard I. stayed there several weeks. That illustrious junketer and princely deadhead, King John, quartered himself once in Northampton Castle, "that he might consume provisions due him in lieu of rent." John must have done a good deal of this "boarding round" in the War of the Roses. We all remember the Battle of Northampton. In the second civil war Northampton sided with the Parliament, and was altogether too quick for the Cavaliers.

They raised £5,000 and 300 horse for Cromwell's cause, and had two ordnance ready for the king's troops when they came to take the town. After two hours the Cavaliers took flight. Charles II. never loved Northampton, though I notice they have his statue in a Roman toga and a French wig. He ordered the castle to be taken down and the stones to be distributed to any loyal person "who would speedily and thoroughly take it down." Some years later almost the entire town was destroyed by fire.

Northampton can boast of a newspaper started by the Diceys in 1720, and until recently owned by this family. It has just been sold to a company of gentlemen, of whom Labouchère is the leading spirit, and after being 165 years in one Conservative family becomes a Liberal journal. I was permitted by the manager to examine the early files of this journal, the office having a complete bound file from the first day of issue to the present time. Among the curious things in this file are the complete mortality reports, which strike the reader of to-day as very outspoken: "died of drunkenness," "died of gluttony," etc., are items we rarely see nowadays. It was the old clerk who prepared these reports for Northampton who asked Cowper to write the "annual verses" that accompanied it, and in compliance the poet wrote the well-known words:

"Like crowded forest-trees we stand,
And some are marked to fall;
The ax will smite at God's command,
And soon shall smite us all."

After enjoining those who run to "read the awful truth," he says:

"These truths—though known—too much forgot,
I may not teach in vain."

And concludes with this:

"So prays your clerk with all his heart,
And ere he quits the pen
Begs you for once to take his part
And answer all—amen."

I was shown the original copy of this particular report, which was printed at the Diceys'. Mortality reports and cock-fights, with occasional bear-baitings, seem to have been prominent among the diversions of the Northampton folk a century or more ago. Advertisements of cock-fights may be found in the files of the old *Mercury*:

Three Crowns.
Cock-fighting: £2 a battle.
Good ordinary each day after the fight.

Yet the public opinion which permitted these advertisements and patronized these exhibitions, together with bear-baiting, was shocked because the editor of the *Mercury* found a place in his columns for a poem on the famous Mrs. Oldfield, the actress:

“Here! here! the poor remains of Oldfield lay;
Gay was the pit whenever she was gay;
Coquettes would blush and jilts would envy bear,
To see themselves so well performed by her;
While every air our admiration draws,
And every exit echoed with applause.
But when our Scottish Mary was her part,
Or Martha fighting for her Jubias' heart,
Or when enthralled with Sophonisba's cares,
The stage became a sea of briny tears.”

And the abject apology for publishing this poem may be found in the copy of the paper publishing the advertisement of the cock-fight:

“A place having been allotted Mrs. Oldfield in Westminster Abbey,” says the editor, “we had hoped our chaste readers would not be offended at the poem.”

Space will not allow us to dwell longer on these interesting scraps of other days, though this last incident carries with it a lesson for the present time and one near home. It is impossible to mention even the names of the famous men of Northampton. The descendants of the family from which our own Washington came are said to live near by,

and the descendants of the Dryden and Cowper families are well known thereabouts. One of the former I met in an old book-store, and a most affable and unassuming gentleman he was.

C.

A SERMON IN 284 WORDS.

HERE, too, preached the famous Dr. Dod, who was met one day upon the high-road by some bacchanals and compelled by them to preach a sermon on an old stump from a text of their own choosing. They gave the little man "Malt" as his text and bade him proceed.

"Beloved," said he, "I am a little man, come at short warning to deliver a brief discourse upon a small subject to a thin congregation, and from an unworthy pulpit. My text is 'Malt,' which cannot be divided either into words or syllables, it being but one. I must therefore reduce it into letters, M A L T.

"M is Moral; A is Allegorical; L is Literal; and T is Theological. The moral is set forth to teach you drunkards good manners; therefore, M, my masters; A, all of you; L, listen; T, to my text.

"The allegorical is when one thing is spoken and another is intended; the thing expressed is Malt, which you bacchanals make M, your meat; A, your apparel; L, your liberty, and T, your text. The literal is according to the letter: M, much; A, ale; L, little; T, thrift.

"The theological is according to the effect it produces, which I find to consist of two kinds: First, respects this life; second, that which is to come. The effects which it produces in this world are in some M, murder; in others A, adultery; in all L, licentious lives; in many T, treason. The effects consequent in the world to come are: M, misery; A,

anguish: L, lamentation; T, torment. And now, beloved, first, by way of exhortation: M, my masters; A, all of you; L, leave off tippling; or, secondly, by way of combination: M, my masters; A, all of you; L, look for; T, torment.

“Now, to wind up the whole and draw to a close, take with you the character of a drunkard. A drunkard is the annoyance of modesty, the spoil of civility, his own shame, his wife’s sorrow, his children’s curse, his neighbor’s scoff, the alehouse-man’s benefactor, the devil’s drudge, a walking swill-bowl, the picture of a beast, and monster of a man.”

With this extemporaneous philippic, the little man got down from his unworthy pulpit and left the paralyzed drunkards in amazement.

There is rapidly arising from the ancient center of the British boot and shoe trade a nineteenth-century Northampton,—a Northampton with better streets and good parks, with a handsome railway-station, a decorated Gothic town-hall, mechanics’ institute, free library, opera-house, corn-exchange, detached villas of white and red brick, and rows of comfortable two-story cottages for the more thrifty of the mechanics, who have made the town famous for centuries. This is the Northampton one sees when passing on the main line of the London and Northwestern Railway. The old town is full half a mile from the station, and to alight and spend a few days at the old George Inn, which Daniel Defoe described in 1760 as “looking more like a palace than an inn, and costing about £2,000,” and in wandering through the shoemakers’ quarters, one will come away with a very different idea of the place.

CI.

HOW THE SHOEMAKERS LIVE.

To learn how many of the shoemakers live, one should explore Grafton, Harding, Crispin, Scarletwell, Compton,

Frances, and Castle streets, and Spring, Sawfit, Chalk, Pike, and Quart Pot lanes. Here in the narrowest and most forlorn-looking streets, splashed with slops and littered with garbage, are dwellings which almost baffle description. Little miserable plaster houses, with the plaster falling off in spots, giving them a blotchy, mottled appearance; speckled houses of reddish-brown and yellow ochre; houses with tiny doors not more than five feet high actual measurement, with such tiny bits of rooms, and damp-looking cellars at the back in which hammer away the celery-white-complexioned shoemakers; houses, too, that looked like the houses children drew, with the frame of the door sprawling out at the bottom and the windows stuck in at random; houses with many gables; houses with red tiles and gray stone and drab slate roofs. Paint, whitewash, brownwash, and yellowwash—all seem to have been used to give variety to the color of the houses of Snobopolis, the lower half of some of the buildings on the better streets being painted black. But there was nothing fresh or clean about all this paint and wash, such as one is accustomed to in a Northern-German or Dutch town; on the contrary, it was musty, mildewy, and decaying, like the houses themselves at the workingmen's quarters of the town. Dirty children quarreling, grubbing in the dirt, racing, squealing, squatting in rows like roosting draggle-tailed fowls, or huddled together on door-steps holding sickly babies; vixenish women and beery men in and outside of low "publics." These are some of the salient features of Northampton proper.

An air of boots and shoes pervades the whole town. The bulk of the work is done in the mean cottages of the operatives, and this conversion of the home into a workshop destroys entirely homelikeness. The frame of the small front door on either side has a black, greasy patch, caused by the constant rubbing of the strings of shoes and fagots of uppers that are carted in and out of the house in the course of the year. The door itself has a similar blackened appearance, and oftentimes the wall of the front room.

These, together with the constant tapping as of some one making coffins, are the signs of the half-workshops, half-homes of Northampton shoemakers.

On the afternoon of any day just preceding a day of rest or a national holiday, the working population seem to be carrying boots and shoes of all kinds and all conditions, from the stacks of soleless uppers to the bag or bundle of finished shoes. Pallid, unshaven men, with short clay pipes, smeared faces, and smudgy aprons, hastening to the factory with strings of boots ready for the finisher. Nor is the Northamptonshire shoemaker above making a beast of burden of his wife. Women may be seen in all directions struggling with immense bundles and baskets of boots and shoes, likewise the boys and girls.

It must not be supposed that this industry is carried on in Northampton the same as with us. The factory system is to-day less in favor here than ever.

"And why?" I asked Mr. Manfield, of one of the largest firms in town.

"Because," was the prompt reply, "we can manufacture cheaper by giving out the work and having it done at the homes of the men."

Many of the largest firms merely do the cutting of the uppers and the soles on the premises, the "closing," "making," and "finishing" being all done off the premises. The uppers are "closed" generally by women, who are paid by the dozen, and come for and bring back the work. By working hard for a week they can make about \$2.50 on the average. The uppers are then "passed in," as they term it, and go out with the last for the "maker," who is paid from 10 cents to 30 cents per pair. After adjusting them, the maker has to take them to what is called the "trade sewer," who stitches or screws the soles on at so much a dozen, the workmen, of course, paying for this. Then he calls for them, rubs down the sole, and puts on the heel, and the shoe is "made," but has yet to be finished. The amount of carrying done by hand seems, from an American standpoint,

excessive. The uppers are first taken from and are returned to the factory; then the uppers and soles and lasts are taken by the "maker" to his half-shop, half-home; then he takes them to the "trade sewer," and they are again returned to the "maker." Next the maker "passes them in" to the factory, and if the factory does not employ finishers they must again be carried to and from the finishers. When we remember, therefore, that in Northamptonshire 25,000 persons are engaged in this trade, and most of them in the town from which I write, it is not surprising that on certain days the whole town seems seized with a mania for carrying stacks and fagots and baskets and bundles and strings of boots and shoes.

CII.

THEY WANT FREE TRADE.

YET with all this extra amount of labor England could compete with our factory-made boots were it not for our tariff. Said Mr. Manfield, an exceedingly polite gentleman, who gave me many facts during my stay here:

"Give us free trade and we will beat you all to nothing."

How can it be done? By the simple method of grinding down labor to the lowest cent. It is almost impossible to say what these Northampton shoemakers earn. A first-class and steady hand can make \$6 to \$7.50 a week if he has steady work; but then the carrying must be done by some other member of the family, and he often obtains help at home in this way. This is the employer's side of the story. I found a good number of men who did not make on an average more than \$3 or \$4 a week. Then these so-called "trade sewers" and "middlemen," or, as they are called in the Black Country, "foggers," contract to do work for reputable firms who would be ashamed to squeeze labor

to the verge of starvation themselves, but are perfectly willing to profit by it, providing some other fellow turns the crank. These men, too, utilize the labor of women and girls, but the pay is exceedingly small. Below I have obtained the average rates of wages paid to persons employed in a Leicestershire boot and shoe factory, but there is no way of obtaining a similar statement from those who work at their homes:

Description of Occupation.	Rate of Weekly Wages.
Clickers (men).....	\$6.30
Clickers (lads).....	2.00
Sewing-machinists (men).....	7.30
Sewing-machinists (women).....	3.60
Sewing-machinists (girls).....	1.25
Rough-stuff cutters (lads).....	1.90
Riveters (men).....	6.00
Riveters (lads).....	1.75 to 3.00
Machine operators (men).....	7.00
Machine operators (lads).....	1.75 to 3.50
Finishers (men).....	7.50
Finishers (lads).....	3.00 to 3.50
Warehouse hands (lads).....	1.25 to 3.00
Warehouse hands (girls).....	1.50
Stock-room men.....	5.90

The above figures I know to be reliable, but I have not the rates paid in American shoe manufactories with which to compare them.

The morals of the Northampton shoemaker, I regret to say, are decidedly of the quart-pot-lane order. It was not long since that an English writer of authority said a large proportion of them were decided members of the "alcoholic persuasion." The town is literally studded with gin-palaces and grog-shops. Fascinating bar-maids dispense drink with a surprising degree of reckless dexterity, not even measuring the "quartens" and "half-quartens," but guessing at it and drawing it haphazard into tumblers. From the portals of these places emerge, especially on Mondays, unshorn, unkempt men, with filmy eyes, staggering, and looking "as wise as owls." You see them swaggering to their abodes, now and again embracing a lamp-post and gazing into

futurity and the opposite gutter. But, for all this, I was assured that the morals of the center of the British shoe trade are better than formerly. There is still room for improvement. And in this even an English authority like Doctor Rowe agrees. "There is," says he, "many an intelligent, temperate, industrious, frugal, generally moral Northampton shoemaker; but I am afraid there are many more shoemakers in Northampton to whom such attributes could only be ascribed in most satirical irony."

The section of the town I described above forms part of Mr. Bradlaugh's district. In reply to the question whether Mr. Bradlaugh represented the religious views of the community, the answer was that his canvasses had always been avowedly political, and in no sense religious. It is, however, undoubtedly true "that there are many free-thinkers among shoemakers, some of them sensible, earnest men; and others shallow-pated, blatant coxcombs, who love the sound of their own voice, more especially when it is saying something which they think will wound the feelings of those who are considered more reputable members of society than themselves."

There is a Theater Royal at Northampton, and an opera-house. The former is a square, gray, plaster building, with imitation windows painted with black paint, and such other wild and weird streaks of red and black paint in front that it looked like the face of a savage. From the atmosphere within, the thought occurred to me that perhaps all windows were like those in front, imitation. It was too much, and I sacrificed my sixpence. At the opera-house I invested a shilling, and found a very decent audience in the pit. Of course all had their hats on, and those who were not smoking at the bars in either corner were holding lighted cigars or pipes in their hands. A few policemen in uniform loitered, as they always do in provincial theaters, in the background. In the dress-circle were the élite of the town, some of them in full dress. The play was "Fedora," and was about as bad as anything could be. Though liquor was being used

freely, very freely, on all sides, the audience was orderly and seemed interested in the play. The physique of the Northampton shoemaker is markedly inferior to that of the workers in the regions of the North of England. Indeed, what has been done for the operatives in many branches of manufactures still remains to be done for shoemakers. Tailors and shoemakers still need much to be done for their health. They are less healthy than the average.

CIII.

DECLINE OF BRITISH AGRICULTURE.

THE decrease in the total number of persons employed in agriculture in the decade ending 1881 was nearly sixteen per cent, while the total decrease between 1861 and 1881 was thirty-one per cent. Thus, while there are nearly one-third less persons cultivating the soil than twenty years ago, England is becoming more and more dependent upon foreign countries for its food. The rapid dwindling of the numbers of the agricultural population of England may well be looked upon with alarm. In 1861 the agricultural population of the kingdom comprised 20.8 per cent of the total population. In 1871 it amounted to only 15.7 per cent, and in 1881 it had fallen to 12.4 per cent.

The above startling facts on the decadence of the agricultural population of the kingdom will effectually dispose of Mr. Bright's rant regarding the improvement of the agricultural classes in England, and the benefits of free trade to British agriculture.

How does the following—taken verbatim from an official report recently made to Parliament—strike those who fondly talk of the improvement in the condition of the laboring classes in England under free trade?

“At a block of six cottages: one of these cottages is occu-

pied by a man and his wife and five young children; they have but one bedroom. The next cottage which your committee report upon is one occupied by A, with his wife and three children, who have but one bedroom; two children here died of the fever; until death reduced the family there were seven persons sleeping in one room.

"In a cottage occupied by B, a widow with five children and a grandson,—namely, a son aged twenty-five, a daughter aged nineteen, three more sons aged seventeen, fifteen, and eleven, respectively, and a grandson aged five,—there is but one bedroom.

"In a cottage occupied by C, a tailor, there are four grown-up persons sleeping in one room,—namely, the father and mother and a grown-up son and daughter.

"A cottage occupied by D, who with his wife and five children sleep in one bedroom, which, though small, is open to the roof.

"The next-door neighbor, under the same roof, has but one bedroom, in which sleep the father and grown-up son and daughter; there are, indeed, two beds, but the room is so small that there is barely two feet between them.

"Your committee report upon a row of five cottages. In one, occupied by E, there is but one bedroom, part of which is partitioned off, and forms what looks more like a cupboard than a room, without door or window or fireplace. In this one room, with its open cupboard, a family of eight have been brought into the world, and, with the father and mother, still use it as their sleeping-place. Two sons and one daughter are grown up, and the rest, consisting of three sons and two daughters, are under sixteen. The grown-up daughter has just been sent to the workhouse to be confined (she returned in a fortnight's time with her child).

"In another cottage occupied by F, with his wife and five children, there is but one bedroom, reached by a broken staircase, the two bottom steps of which have disappeared.

"In a third, occupied by G, with his wife and four children, there are two small bedrooms, but only one is used, because the other is so damp.

"In a cottage occupied by H there is but one room upstairs and one downstairs. In the latter are two beds, in one of which lies Mrs. H, bedridden; the other is used by her husband. Five grown-up men, a child, and the woman who waits on Mrs. H sleep in the bedroom.

"In a cottage occupied by I there is but one bedroom; the family are father and mother, two grown-up sons, and one grown-up daughter. They all sleep in the same room. When your committee were there they found, in addition to the usual occupants, a married son, with his wife and child, staying on a visit."

Is it possible, I ask in all seriousness, to crowd a more terrible account of abject poverty and degradation into the same space in a column of a newspaper than we have here? I think not. This is a plain statement from an official report. It is no exceptional case. There are hundreds of just such villages and thousands upon thousands of just such cottages in the rural districts of England. Indeed, the clergyman of this very village says he will answer for it that in the single rural union of which it forms a part there are at least four villages where the cottages are equally bad.

And this is an ordinary English country village, with a squire and a parson, and the usual charitable appliances, including a stately workhouse.

I cannot believe, with these facts confronting us, that the condition of the English laborer has greatly improved of late years. The same terrible conditions of life may be found in the large cities as were found in 1840, and the same conditions may be found in the rural districts. The great daily journals wholly ignore these facts. "What is the use?" they say; "no good can come of publishing them." And so matters grow from bad to worse. Mr. Chamberlain has recently been exposing the terrible condition of the agricultural laborer, and asking how he can live and main-

tain his family on 10 shillings a week (\$2.40), 7½ per cent of which amount (according to the above-named gentleman, who is President of the Board of Trade) is taken from him by the existing unfair system of taxation. What the British laborer will do when an additional 2,000,000 are enabled to vote it is difficult to say. The economic pendulum may swing to the other extreme, as it has done in Germany. The wage-earners are dissatisfied, a large number of them out of employment, and great distress exists in all labor centers. Many of the large towns have organized for the distribution of food and blankets, and the town councils have voted sums of money for this purpose. On all hands the complaint is raised that free importations of manufactured goods and foreign tariffs are responsible for the terrible degree of this distress, if not for the financial depression itself. Nothing like the distress exists in the United States as I found here.

CIV.

LONDON—LABOR AND WAGES—CONCLUSION.

JUDGED in the light afforded us by the census of 1880, the industrial progress of the United Kingdom during the last decade, and indeed the decade preceding it, has been far from satisfactory. From these returns we are able to trace a number of interesting changes in the employment of the industrial population. One of the most discouraging features is the stationary condition of female labor; although the number of females increased between 1860 and 1881 by upward of 3,000,000, the number returned as engaged in some occupation other than that of housekeeping was only a trifle larger at the end of twenty years than it was at the beginning. Of course, this may be in part due to the fact that women have been withdrawn from some occupations

which are unfitted for their sex, and to that extent it is a matter for congratulation; but, on the other hand, the enormous increase in the number of women classed as of no occupation is no doubt largely attributable to the want of suitable openings for female labor. There are multitudes of women only too anxious to be afforded an opportunity of earning a living for themselves, and that there has been such a trifling increase in the last twenty years in the number who have been able to find employment is much to be regretted.

The number of persons engaged in textile and mineral industries for the three decades was as follows:

	1881.	1871.	1861.
Textile industries	1,053,648	1,036,544	1,025,870
Mineral	1,277,592	1,156,621	1,012,997

Distinguishing the various classes of textiles, the numbers employed at each census period were:

	1881.	1871.	1861.
Cotton and flax.....	586,470	562,015	563,014
Hemp and other fibrous materials.....	22,471	21,073	22,883
Mixed or unspecified materials.....	147,873	116,913	83,170
Silk	63,577	82,053	117,989
Wool and worsted.....	233,256	253,490	238,814

And taking the two classes which constitute the bulk of those returned as working or dealing in mineral substance,—that is, miners and the workers in iron and steel,—the comparison is as follows:

	1881.	1871.	1861.
Miners	441,272	376,783	330,446
Workers and dealers in iron and steel.	361,343	360,356	316,572

The chief variations in point of numbers, it will be observed, are in the silk and the mining trades, the gradual decay of the former being shown by great diminution in the number employed; while in the number of miners there is a large increase, attributable in part to the great influx of

people previously engaged in other occupations which took place in the inflation of 1873. As regards the other industries, probably the most remarkable feature is the very small increase in the number of persons finding employment in them.

Indeed, the number of men at work in the cotton industry, if we omit the flax industry, diminished instead of increased during the twenty years; the augmentation, as will be seen from the following comparison of the numbers engaged in the actual work of manufacture, being wholly in the females.

Number of persons engaged in cotton manufacture:

	1881.	1861.
Males.....	185,400	197,572
Females.....	303,267	259,074
	<hr/>	<hr/>
	488,667	456,646

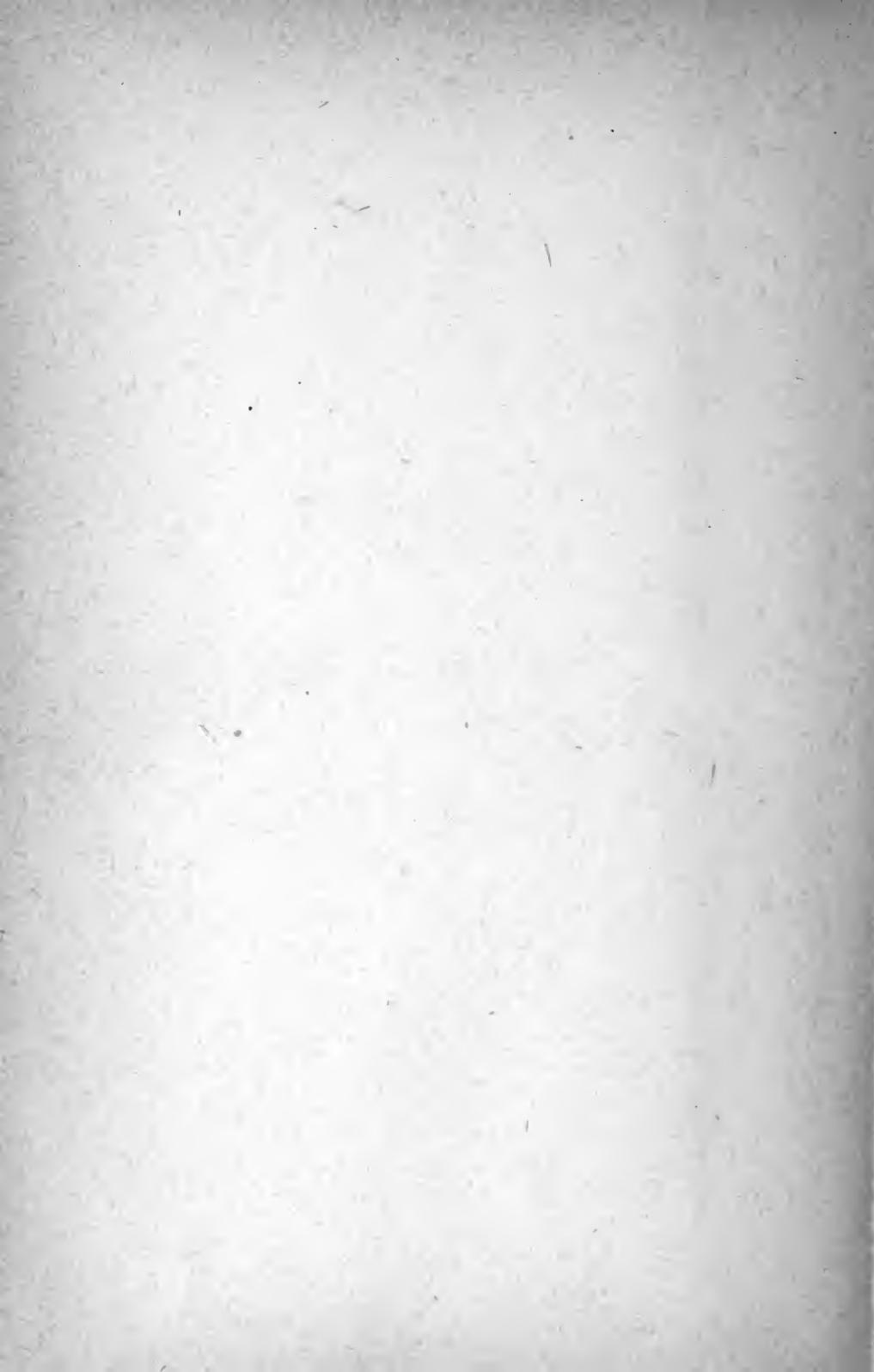
There is also a decrease in England in the number of persons engaged in gainful occupation, 11,187,564 being so returned in 1881, while in 1871 the number was placed at 14,786,875. For example, the tin-miners of Cornwall in 1871 numbered 15,543, and only 10,253 in 1881, while the production of tin for the same period has fallen 21 per cent. The population engaged in making boots and shoes has decreased from 235,477 in 1871 to 216,536 in 1881. I have already shown the decrease in the number of silk-workers which in the decade was 22 per cent, coincidentally with which there has been a fall of 55 per cent in the amount of raw silk imported into the country. Producers of glass, straw hats, and straw plait have fallen off very much.

There is, however, as I have shown, a marked increase in the number employed in coal-mining and making machinery. The one is the removal and consumption of a wealth that can never be replaced; the other is the placing in the hands of foreigners the means by which other nations can compete with Great Britain. With a similar increase in

other industries, this might be considered a healthy sign. With the decrease in every other industry, it is regarded by many English statesmen with alarm. The number employed in the five principal textile industries has declined from 919,817 in 1861 to 883,303 in 1881, while in the United States the number so employed increased 100 per cent during the same period.

THE END.









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